CDX-4160

SERVICE MANUAL

US Model
Canadian Model
E Model

SPECIFICATIONS

Model Name Using Similar Mechanism	CDX-2160/EXCD-206
CD Drive Mechanism Type	MG-333X-121
Optical Pick-up Name	KSS-520A

AUDIO POWER SPECIFICATIONS (US Model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
7 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 1 % total harmonic distortion.

Other Specifications

CD player section

System	Compact disc digital audio system
Signal-to-noise ratio	90 dB
Frequency response	10 - 20,000 Hz
Wow and flutter	Below measurable limit
Laser Diode properties	
Material	GaAlAs
Wavelength	780 nm
Emission Duration	Continuous
Laser output power	Less than 44.6 µW*

* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.*

Tuner section

FM

Tuning range	US, Canadian model: 87.5 - 107.9 MHz E model: FM tuning interval: 50 kHz/200 kHz switchable 87.5 - 108.0 MHz (at 50 kHz step) 87.5 - 107.9 MHz (at 200 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.5% (stereo), 0.3% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 - 15,000 Hz
Capture ratio	2 dB

AM

Tuning range	US, Canadian model: 530 - 1,710 kHz E model: AM tuning interval: 9 kHz/10 kHz switchable 531 - 1,602 kHz (at 9 kHz step) 530 - 1,710 kHz (at 10 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 µV

– Continued on next page –

FM/AM COMPACT DISC PLAYER

MICROFILM

SONY®

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 - 8 ohms
Maximum power output	35 W × 4 (at 4 ohms)

General

Outputs	Line output (2) Power antenna relay control/Power amplifier control lead
Tone controls	Bass ±10 dB at 100 Hz Treble ±10 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 × 58 × 180 mm ($7\ 1/2 \times 2\ 3/8 \times 7\ 1/8$ in.) (w/h/d)
Mounting dimension	Approx. 183 × 53 × 163 mm ($7\ 1/4 \times 2\ 1/8 \times 6\ 1/2$ in.) (w/h/d)
Mass	Approx. 1.3 kg (2 lb 14 oz.)
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

SERVICE NOTE

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

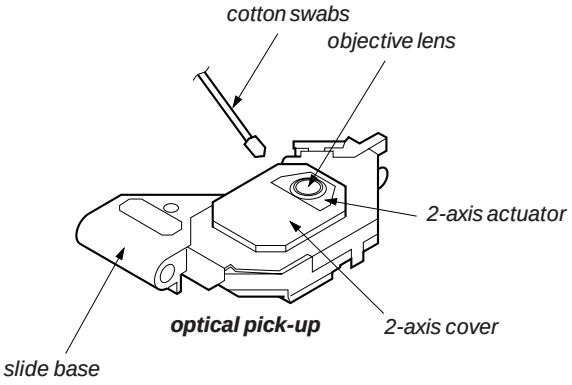
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

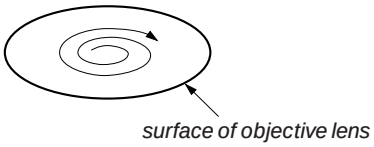
NOTES ON PICK-UP FLEXIBLE BOARD

The pick-up flexible board in this set is secured to the optical pick-up with an adhesive tape. Once the tape is removed, an adhering force becomes weak, and it cannot be reused.
Therefore, if the optical pick-up is replaced, replace also the pick-up flexible board with a new one.

NOTES ON CLEANING THE OBJECTIVE LENS



Apply CD lens cleaner B-4 (Part No.:J-2501-000-A) to cotton swabs (narrow type) (Part No.:J-2501-023-A) to be lightly wet. Use a force (about 5 g (0.18 oz)) to make the objective lens in contact with the bottom lightly, and clean the lens by spirals as following below.
Replace the cotton swab and repeat this cleaning two or three times.



Notes:
Do not force to push the objective lens. Otherwise, the plate spring supporting the objective lens will be bent, causing a deteriorated RF waveform.
Never touch anything other than the objective lens. Otherwise, a significant deterioration occurs in the RF waveform.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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This section extracted from instruction manual.

Location of controls

Refer to the pages for details.

1. Select/adjust (search/skip/tuning/tape direction/manual search) button 5, 6, 7
2. SOURCE (source select) button 5, 6, 7
3. MODE (band/mono) button 5, 7
4. SEL (control mode select) button 5, 8
5. DSPL (display mode change/time set) button 5, 7
6. Display window
7. SENS (sensitivity adjust) button 7
8. A (alarm) button 6
9. A.MEM (Automatic Memory) button 6
10. RELEASE (front panel release) button 4, 10
11. Volume/bass/treble/balance/fader control) buttons 5, 8
12. MUTE button 8
13. Reset button (located on the front side of the unit behind the power panel) 4
14. CNT button 8, 6, 8
15. Frequency select switch (located on the bottom of the unit)
    See "Frequency Select Switch" in the Installation/Connections manual.
16. During radio reception:
    Number buttons 5, 7
    During CD playback:
    - (1) INTRO button 9
    - (2) REPEAT button 9
    - (3) SHUF button 9
17. D-BASS (3) 9

When the power of switch 15 is turned on, be sure to press the reset button after connecting power.

Setting the clock

The clock has a 12-hour digital indication.

How to set the clock to 10:08

1 Press (DSPL) or (SEL) during operation.

2 Press (DSPL) for two seconds.

The hour digits flash.

3 Set the hour digits.

To go forward

To go back

4 Press (SEL) momentarily.

The minute digits flash.

5 Set the minute digits.

To go forward

To go back

6 Press (SEL) momentarily.

The clock is activated.

Note

A 24-hour time system can be selected by turning off the power, then pressing and holding down (SEL) and (MODE) while turning on the power. (Except for some car audio models.)

CD Player

Listening to a CD

Simply insert the CD.
Playback starts automatically.
• Label side up

To eject the CD

Note

Repeat playback

To	Press
Stop playback	▲ or (SEL)
Eject the CD	▲

Changing the displayed items

Each time you press (DSPL), the item changes as follows:

Elapsed playing time → Track number → Time

Locating a specific track
— Automatic Music Sensor (AMS)

During playback, press either side of (MODE) momentarily.

To locate succeeding tracks

To locate preceding tracks

Locating a specific point in a track
— Manual Search

During playback, press and hold either side of ⏮/⏭ for two seconds, release the button when you have found the desired point.

To search forward

To search backward

Note

(...) you hear the beginning of the track, you can repeat the beginning several times or the track you want.

Playing a CD in various modes

Searching for the desired track
— Intro Scan

Press ⏭ during playback.
"INTRO" appears in the display.

The first 10 seconds of all the tracks are played.

When you find the desired track, press again. The unit returns to the normal playback mode.

Playing tracks repeatedly
— Repeat Play

Press ↻ during playback.
"REPEAT" appears in the display.

When the currently played track is over, it will be played again from the beginning.

To cancel this mode, press again.

Playing tracks in a random order
— Shuffle Play

Press ⤮ during playback.
"SHUFFLE" appears in the display.

To cancel this mode, press again.

Memorizing stations automatically
— Automatic Memory

Stations with the clearest reception are automatically searched and memorized in each band (FM1, FM2, FM3 and AM) in the order of frequency. Up to 6 stations in each band can be stored in the number buttons (1) to (6) in the order of band sequency.

1 Press ⏮/⏭ repeatedly to select the tuner.
Each time you press ⏮/⏭, the mode changes as follows:
CD → TUNER

2 Press BAND repeatedly to select the band.
Each time you press BAND, the mode changes as follows:
→ FM1 → FM2 → FM3 → AM →

3 Press AUTO for two seconds.
The unit will automatically preselect broadcast stations and memorize the same stations on the number buttons (1) through (6) automatically.

Notes
- The unit memorizes stations with strong signals. If only a few stations are found, some number buttons remain empty.
- When stereo broadcasts are received, the unit automatically identifies and memorizes them.
- If (1) to (6) are not set, only found stations are memorized when you press AUTO.

Memorizing only the desired stations

You can store up to 5 stations in each band (FM1, FM2, FM3 and AM) in the order of your choice.

1 Press BAND repeatedly to select the tuner.

2 Press TUNING repeatedly to select the band.

3 Tune in the station that you want to store on the number button.

4 Press the desired number button (1) to (5) for two seconds until "MEM" appears.
The number button in which you store appears in the display.

Note
If you try to store another station on the same button, the previously stored station is erased.

Receiving the memorized stations

1 Select the desired band (page 8).

2 Press the number button (1) to (6) momentarily where the desired station is stored.

If you cannot tune in a preset station

Press either side of ⏮/⏭ momentarily to search for the station (automatic tuning).
Searching stops when the unit receives a station. Press either side of ⏮/⏭ momentarily until the desired station is received.

Note
If the automatic tuning does not function, press ⏮/⏭ momentarily until "SET" appears in the display and then repeatedly press ⏮ or ⏭ to tune in the desired frequency manually.

If FM stereo reception is poor
— Monaural Mode

Press MODE momentarily until "MONO" appears.
The sound improves, but becomes monaural ("ST" disappears).

To go back to the normal mode, press again until "MONO" disappears.

Changing the displayed items

Each time you press DISPLAY, the items alternate between the frequency and time.

Other functions

Adjusting the sound characteristics

You can adjust bass, treble, balance and fader. Also you can store the bass and treble level independently.

1 Select the item you want to adjust by pressing DSG repeatedly.

VOL (volume) → BAS (bass) → TRE (treble) → BAL (BALANCE) (balance) → FAD (FADER) (fader)

2 Adjust the selected item by pressing + or −.

Adjust within three seconds after selecting the item. (After three seconds, the item is set and the display returns to the previous one.)

Muting the sound

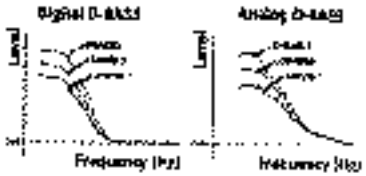
Press MUTING.
"MUTE" flashes.

To restore the previous volume level, press MUTING again.

Changing the sound and beep tone

Boosting the bass sound — D-bass

You can enjoy clear and powerful bass sound. The D-BASS function boosts low-frequency signal with a steeper curve than conventional bass boost.
You can hear the bass line more clearly even at the low volume. You can also adjust the bass sound easily with the D-BASS control. The effect is similar to the one you get when you use an optional subwoofer system.
However, the Digital D-BASS* function creates even sharper and more powerful bass sound than analog D-BASS.



Adjusting the bass curve

Turn the D-BASS dial to adjust the bass level (1, 2 or 3).
"D-BASS" appears in the display.
During CD playback, "DIGITAL D-BASS" appears on the display.

To cancel, turn the dial to the OFF position.

Muting the beep tone

Press ⏻ while pressing DSG.

To obtain the beep tone again, press these buttons again.

Note
If you press an optional power amplifier set to on or the beep cannot be heard, the beep may be muted.

Turning on the clock display — Power Select function

Only for cars with an accessory position on the ignition key switch

To turn the Power Select Function ON

Press ⏻ while pressing DSG.
The Power Select Function lets the clock display power to the accessory position on the ignition key switch.
To avoid battery wear, the clock is not displayed while the unit is initializing.

Note
The Power Select Function may not work with some cars. (As of 2001)

* Digital D-Bass is available for only CD playback.

Additional information

Precautions

- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the unit, allow the unit to cool off before operating it.
- If an incorrect number appears in the display, or if operation is not correctly carried out, consult your nearest Sony dealer.
- If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

Notes on handling CDs

A dirty or defective disc may cause sound dropouts while playing. To enjoy optimum sound, handle the disc as follows.
Handle the disc by its edge. To keep the disc clean, do not touch the surface.

Do not stick paper or tape on the labeled surface.

Do not expose the discs to direct sunlight or heat sources such as hot-air ducts, or leave them in a car parked in direct sunlight where there can be a considerable rise in the temperature inside the car.

Before playing, clean the discs with an optional cleaning cloth. Wipe each disc from the center out.
Do not use solvents such as benzine, thinner, commercially available cleaners or antistatic spray intended for analog discs.

Notes on moisture condensation

On a very damp day or if you play discs in a car with the heater on, moisture may condense on the lenses inside the CD player. Should this occur, the unit will not operate properly. In this case, remove the disc and wait for about an hour until the moisture evaporates.

When you play 3 in CDs

Use the optional 3-inch compact disc single adaptor (CSA-8) to protect the CD player from being damaged.

Maintenance

Fuse replacement

When replacing the fuse, be sure to use the fuse that matches the amperage prescribed on the case. If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

Warning

Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

Connections

Caution

- This unit is designed for negative earth 12 V DC operation only.
- Before making connections, disconnect the earth terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all earth wires to a common earth point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

If Your Car has an Accessory Position on the Ignition Key Switch — POWER SELECT Function

To turn the Power Select Function on
Press OFF **while pressing** SEL.
The Power Select Function ties the clock display power to the accessory position on the ignition key switch.
To avoid battery wear, the clock is not displayed while the unit is initializing.

Note

You cannot operate this function with the optional rotary remote (RM-X2S).

Frequency Select Switch

The AM (FM) tuning interval is factory-set to the 9K (50K) position. If the frequency allocation system of your country is based on 10 kHz (200 kHz) interval, set the switch on the bottom of the unit to the 10K (200K) position before making connections.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse solamente con 12 V CC, negativo a masa.
- Antes de realizar las conexiones, desconecte el terminal de puesta a masa de la batería del automóvil a fin de evitar cortocircuitos.
- Conecte los cables conectores de alimentación **amarrillo** y **rojo** solamente después de haber conectado los demás.
- Cerciórese de conectar el cable conector de alimentación rojo a un terminal de 12 V positivo que se energice al poner la llave de encendido en la posición para accesorios.
- **Conecte todos los conductores de puesta a masa a un punto común.**
- Conecte el cable amarillo a un circuito libre del automóvil que tenga una capacidad superior a la del fusible de la unidad. Si conecta esta unidad en serie con otros componentes estereofónicos, el circuito del automóvil al que se encuentran conectados debe tener una capacidad superior a la de la suma de las capacidades de los fusibles de cada componente. Si ningún circuito del automóvil tiene una capacidad tan alta como la del fusible de la unidad, conecte esta directamente a la batería. Si el automóvil no dispone de ningún circuito para conectar esta unidad, conectela a un circuito del automóvil con capacidad superior a la del fusible de la unidad, de forma que si se funde el fusible de esta, no se interrumpa ningún otro circuito.

Si el automóvil dispone de posición para accesorios en el interruptor de la llave de encendido — Función POWER SELECT

Para activar la función de selección de alimentación
Presione OFF **mientras presiona** SEL.
La función de selección de alimentación conecta la alimentación de la indicación del reloj con la posición para accesorios en el interruptor de la llave de encendido.
Para evitar el desgaste de la batería, el reloj no aparece durante la inicialización de la unidad.

Note

No es posible utilizar esta función con el control remoto giratorio opcional (RM-X2S).

Selector de frecuencia

El intervalo de sintonía de AM (FM) ha sido ajustado en fábrica a la posición 9K (50K). Si el sistema de asignación de frecuencias de su país se basa en el intervalo de 10 kHz (200 kHz), ponga este selector, situado en la base de la unidad, en la posición 10K (200K) antes de realizar las conexiones.

連接

注意

- 本機僅適用於負極接地 12 V 直流電。
- 連接前，先將汽車電池的接地端子拆下，以免造成短路。
- 紅色和黃色電源線連接完其他所有線路後，才連接這兩條線。
- 務必將紅色電源線連接到汽車電源系統的 12 V 正極端子，該端子在點火鑰匙位於 ACC 位置時有電。
- **將所有接地線都接到普通接地點上。**
- 請將黃色線連接到汽車電路的空閒線路，其額定容量必須大於本機保險絲的額定容量。如果您將本機與其他立體聲組件串聯，則汽車電路的額定容量必須大於各組件保險絲額定容量的總和。如果沒有額定容量與本機保險絲額定容量一樣大的汽車電路，請將本機直接連接到電池。如果沒有可連接本機的汽車電路，請將本機連接到額定容量大於本機保險絲額定容量的汽車電路，以免本機保險絲燒斷時，切斷其他電路。

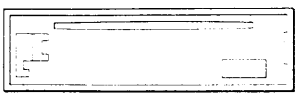
您的汽車的點火鑰匙開關如果備有輔助位置電源 — 選擇開關

要開啟選擇開關，請按著 SEL（選擇）同時按下 OFF（關掉）。

註

頻率選擇開關

Change the position with a jeweler's screwdriver, etc.
Cambie la posicion con un destornillador de relojero, etc.
用一手錶店用螺絲起子等工具切換選購間隔位置。



التوصيل

تنبيهات

- هذه الوحدة مصممة للتشغيل على تيار سالب التأريض ٢١ فولت تيار مستمر فقط.
- قبل عمل التوصيلات، افصل طرف سلك التأريض لتجنب قصر الدائرة الكهربائية.
- قم بتوصيل سلكات دخل التيار الأصفر والأحمر فقط بعد توصيل جميع الأسلاك الأخرى.
- تأكد من توصيل سلك دخل التيار الأحمر لطرف التوصيل ذو الـ ١٢ فولت الذي يتنشط عند التيار عندما يكون مفتاح تشغيل السيارات في وضعية الملحق.
- **قم بتوصيل جميع أسلاك التأريض بنقطة تأريض مشتركة.**
- قم بتوصيل السلك الأصفر بدائرة كهربائية غير مستخدمة في السيارة مقدرة تزيد عن مقدرة فيوز الوحدة. إذا قمت بتوصيل الوحدة في تواز مع جهزة ستريو أخرى فتحتم أن تكون الدائرة الكهربائية التي تقوم بتوصيلها بها مقدرة أعلى من مجموع مقدرات فيوز الأجهزة الموصلة. إذا لم توجد دائرة كهربائية في السيارة مقدرة تساوي مقدرة فيوز الوحدة قم بتوصيل الوحدة مباشرة إلى بطارية السيارة. إذا لم توجد دائرة كهربائية مناسبة لتوصيل الوحدة قم بتوصيل الوحدة بدائرة كهربائية في السيارة مقدرة أعلى من مقدرة فيوز الوحدة بطريقة تضمن بأن قطع أي دائرة أخرى في حالة انصهار فيوز الوحدة.

اذا كانت سيارتك تتضمن موضعاً ثانوياً في مفتاح تشغيل المحرك – مفتاح اختيار التيار – لتشغيل وظيفة اختيار التيار

لتشغيل وظيفة اختيار التيار، اضغط SEL مع الضغط على OFF.
وظيفة اختيار التيار تربط عرض ساعة الوحدة بالوضع الثانوي لمفتاح تشغيل السيارات.
لتفادي استهلاك البطارية، لا يتم عرض ساعة الوحدة بينما تكون الوحدة في وضع الاستعداد.

ملاحظة

لا يمكنك تشغيل هذه الوظيفة باستخدام وحدة التحكم عن بعد الاختيارية (RM-X2S).

مفتاح اختيار التردد

مرحلة ضبط AM (أو FM) مهيئة في المصنع على ٩ كيلوهرتز (٥٠ كيلوهرتز). إذا كان نظام تخصيص الترددات في بلدك يقوم على مراحل كل منها ١٠ كيلوهرتز (٢٠٠ كيلوهرتز)، اضبط المفتاح الموجود على قاع الوحدة على الوضع ١٠ك (٢٠٠ك) قبل عمل التوصيلات.

Reset Button

When the installation and connections are complete, be sure to press the reset button with a ballpoint pen etc.

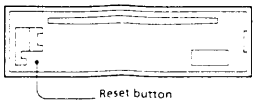
Botón de reposición

Cuando finalice la instalación y las conexiones, cerciórese de presionar el botón de reposición con un bolígrafo, etc.

重調按鈕

زر اعادة التهيئة

عند الانتهاء من التركيب والتوصيلات، تأكد من ضغط زر اعادة التهيئة باستعمال قلم حف الخ.

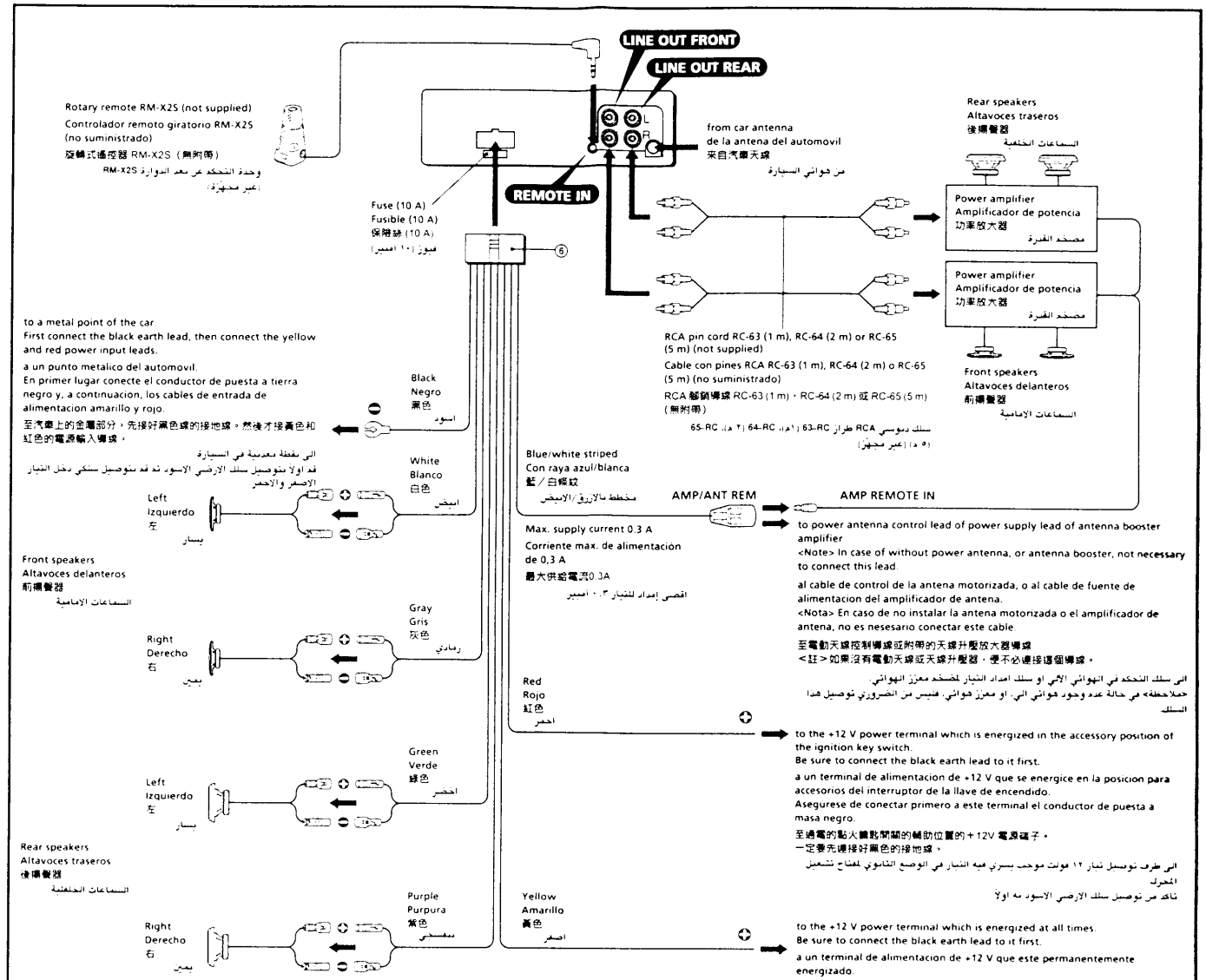


Connection Example

Ejemplo de conexiones

連接舉例

مثال على التوصيل



Notes on the control leads

- *The AMP/ANT REM (blue/white striped) supplies +12 V DC when switched on the unit. When the AMP/ANT REM lead is connected to the power antenna, the antenna will be extended as long as the unit is turned on.*
- *A power antenna without relay unit cannot be used with this unit.*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

Notas sobre conductores de control

- *El conductor AMP/ANT REM azul/blanco suministra +12 V CC cuando conecte la alimentación de la unidad. Al conectar el conductor de control AMP/ANT REM a la antena motorizada, esta se extenderá siempre que se active la unidad.*
- *Con esta unidad no podrá emplearse una antena motorizada desprovista de una de ese*

Conexion para proteccion de la memoria

Si conecta el conductor de entrada de alimentación amarillo, el circuito de la memoria recibirá siempre alimentación incluso aunque sitúe la llave de encendido en la posición OFF.

Notas sobre la conexion de los altavoces

- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 ohmios, y con la potencia máxima admisible adecuada, ya que de lo contrario podría dañarlos.*
- *No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.*
- *No intente conectar los altavoces en paralelo.*
- *No conecte altavoces activos (con amplificadores incorporados) a los terminales de altavoces de la unidad. Si lo hiciese, podría dañar tales altavoces. Por lo tanto, asegúrese de conectar altavoces pasivos a estos terminales.*

控制電線須知

- *藍／白條紋的 AMP/ANT REM 電線在本機電源開啟時，會供給＋12V 直流電。將 AMP/ANT REM 電線連接到電動天線時，天線會在本機電源開啟時伸出。*
- *無繼電器裝置的電動天線無法與本機一起使用。*

保持存儲的接線

當黃色電源輸入線連接時，即使點火鑰匙開關關閉，電源也將始終供給存儲電路。

連接喇叭器須知

- *連接喇叭器前，關閉本機電源。*
- *使用阻抗為 4 至 8 歐姆的喇叭器，並確保其具有足夠的功率容量。否則，喇叭器可能會損壞。*
- *不要將喇叭器系統的端子連接到汽車底盤，也不要將右喇叭器的端子與左喇叭器的端子連接在一起。*
- *不要嘗試將喇叭器並聯連接。*
- *不要將有源喇叭器（帶內置放大器）連接到本機的喇叭器端子。這樣做可能會損壞有源喇叭器。因此，務必將無源喇叭器連接到這些端子。*

ملاحظات حول أسلاك التحكم

- سلك التحكم AMP/ANT REM (أزرق/أبيض) يغذي بامداد تيار مباشر ١٢ فولت موجب عند تشغيل الوحدة. عند توصيل السلك AMP/ANT REM في السلك الآلي يتم تمديد الهوائي طالما الوحدة في وضع التشغيل.
- لا يمكن استعمال هوائي آلي Y بدون مضخم صديق. مرحل مع هذه الوحدة.

توصيلة حفظ الذاكرة

عندما توصيل سلك دخل التيار الاصفر يتم امداد التيار بصورة مستمرة الى دائرة الذاكرة حتى اثناء ايقاف مفتاح تشغيل المحرك

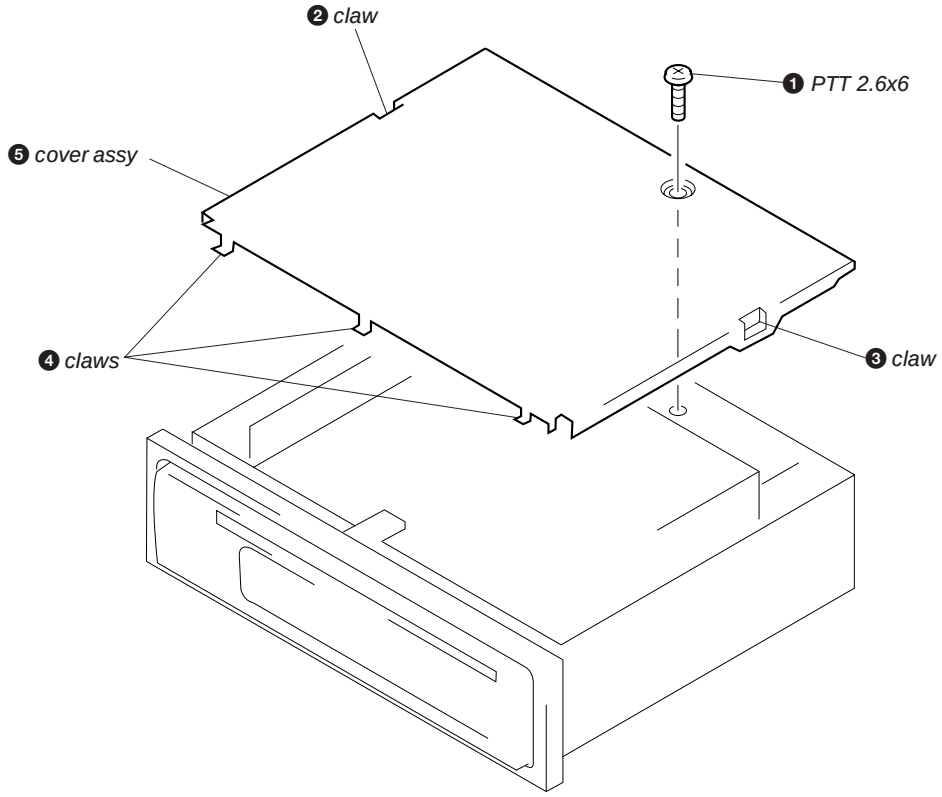
ملاحظات حول توصيل السماعات

- قبل توصيل السماعات، اوقف تشغيل الوحدة
- استعمل سماعات معاوقة من ٤ الى ٨ اوم وسعة تحمل قدرة مناسبة اذا لم تفعل ذلك فقد تتلف السماعات
- لا تعمد الى توصيل اطراف توصيل بطاء السماعات بشاسي السيارة ولا الى توصيل اطراف توصيل السماعات اليسرى باطراف توصيل السماعات اليسرى
- لا تحاول توصيل السماعات على التوازي
- لا تعمد الى توصيل اي سماعات نشطة (أجهزة بمضخمات داخلية) باطراف توصيل السماعات في الوحدة. يمكن بثل هذا الفعل أن يتلف السماعات النشطة. لذا تأكد من توصيل سماعات غير نشطة بتلك الاطراف.

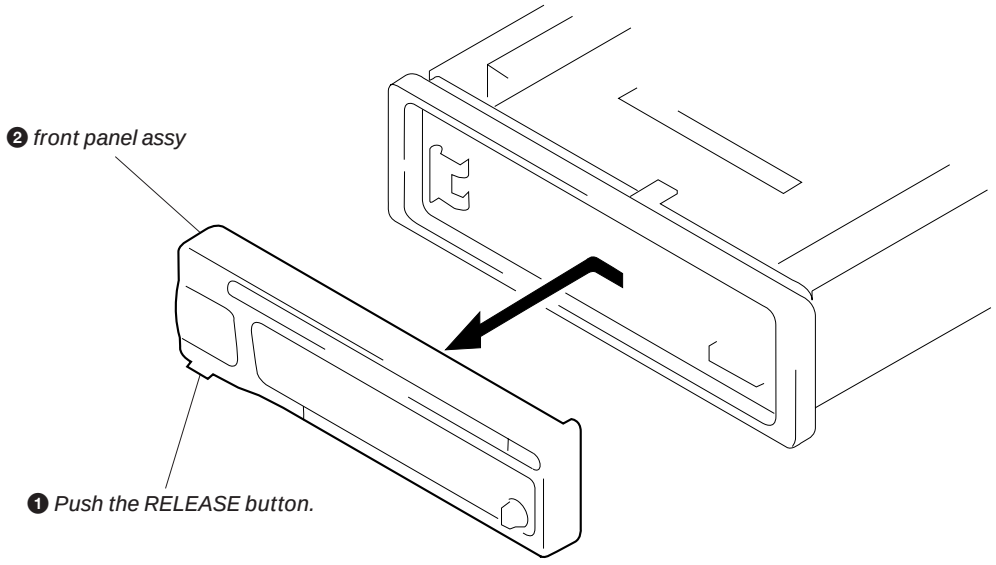
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

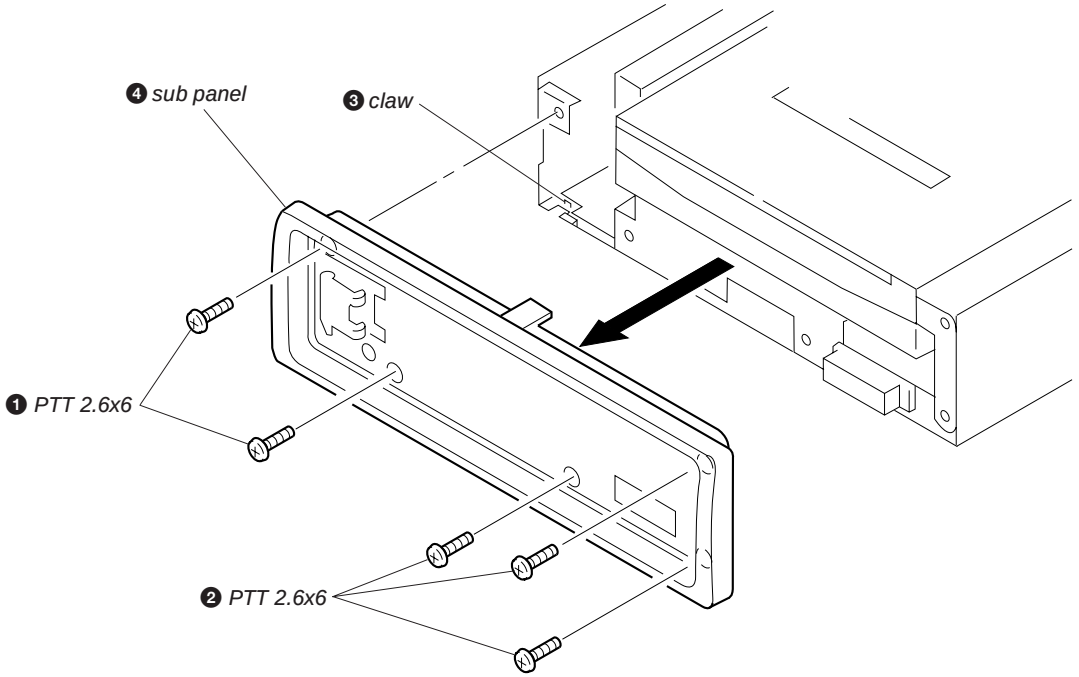
2-1. COVER ASSY



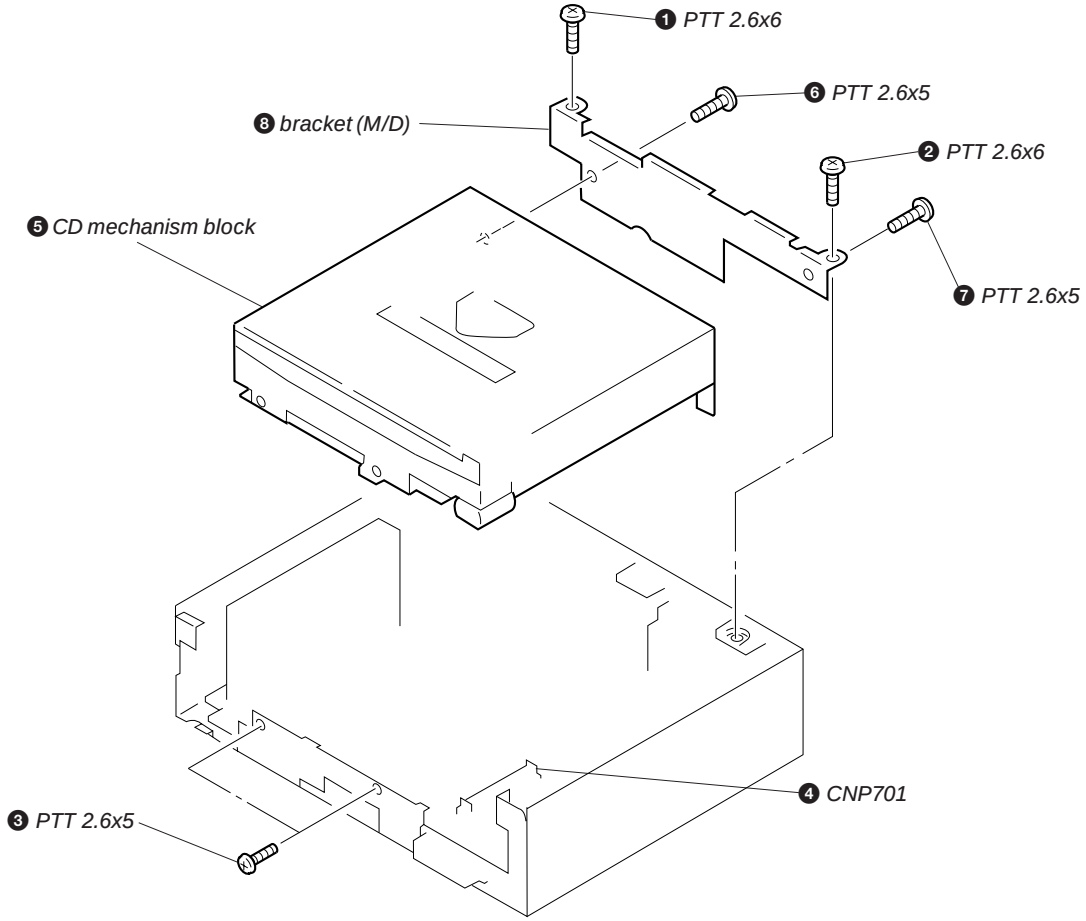
2-2. FRONT PANEL ASSY



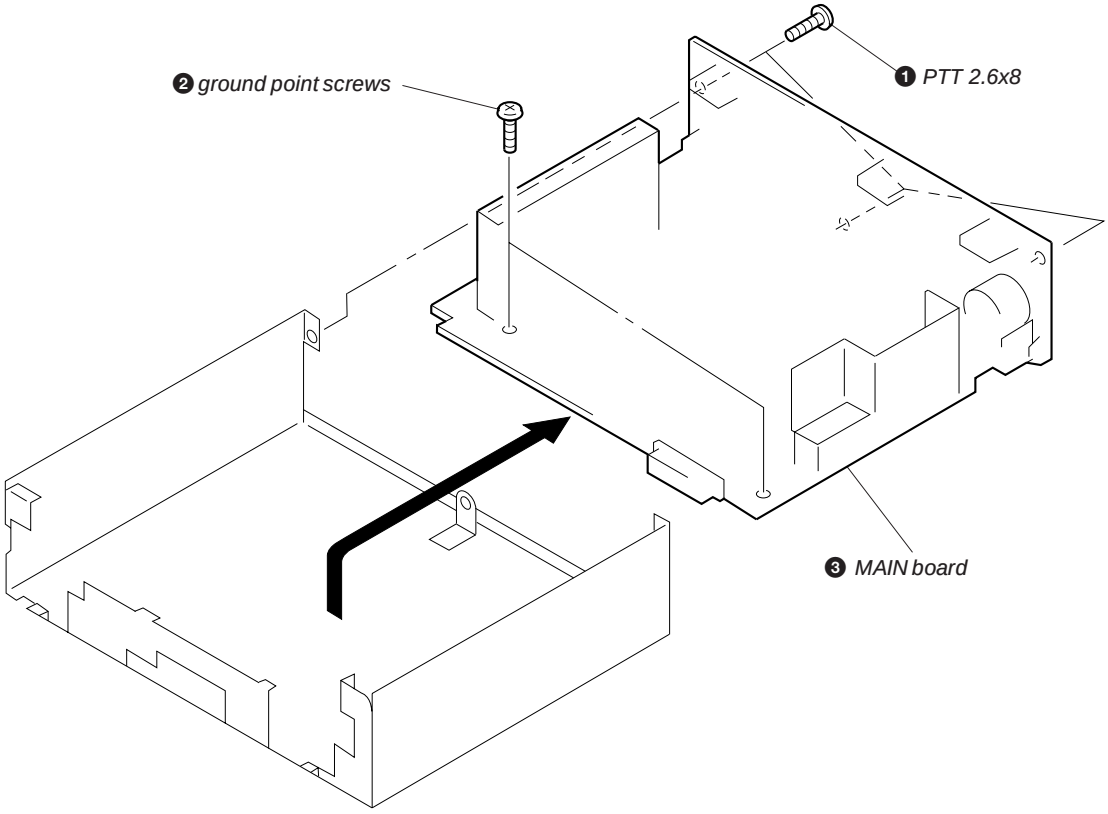
2-3. SUB PANEL



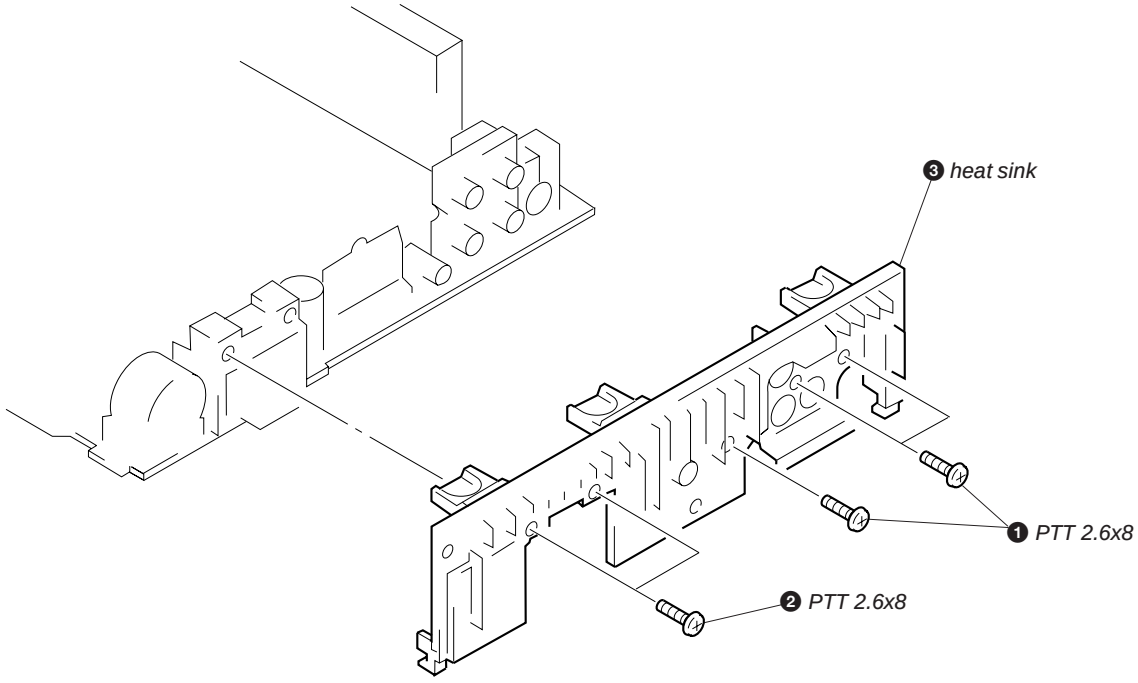
2-4. CD MECHANISM BLOCK



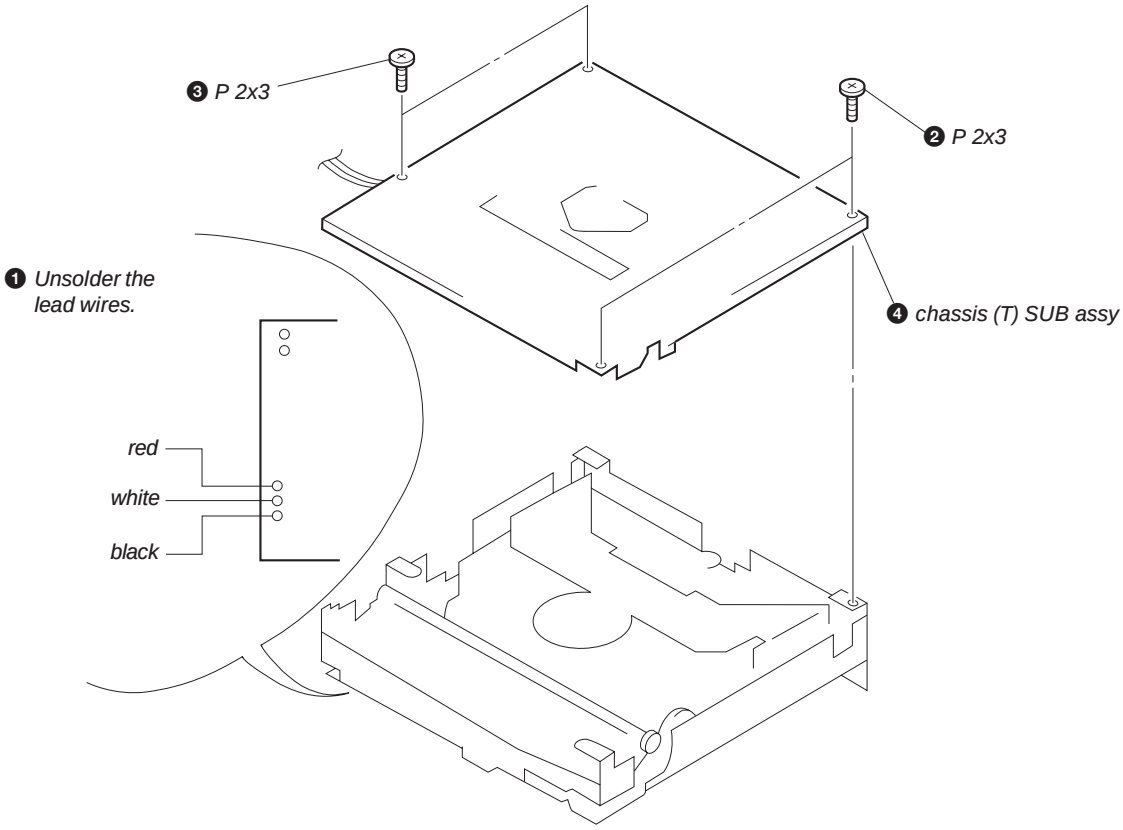
2-5. MAIN BOARD



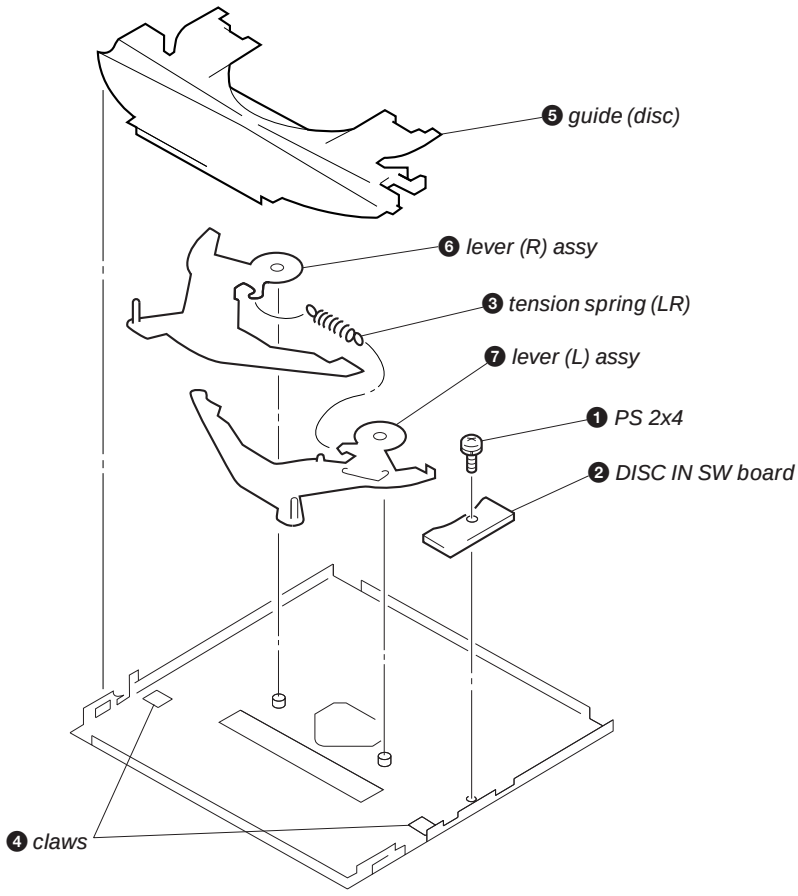
2-6. HEAT SINK



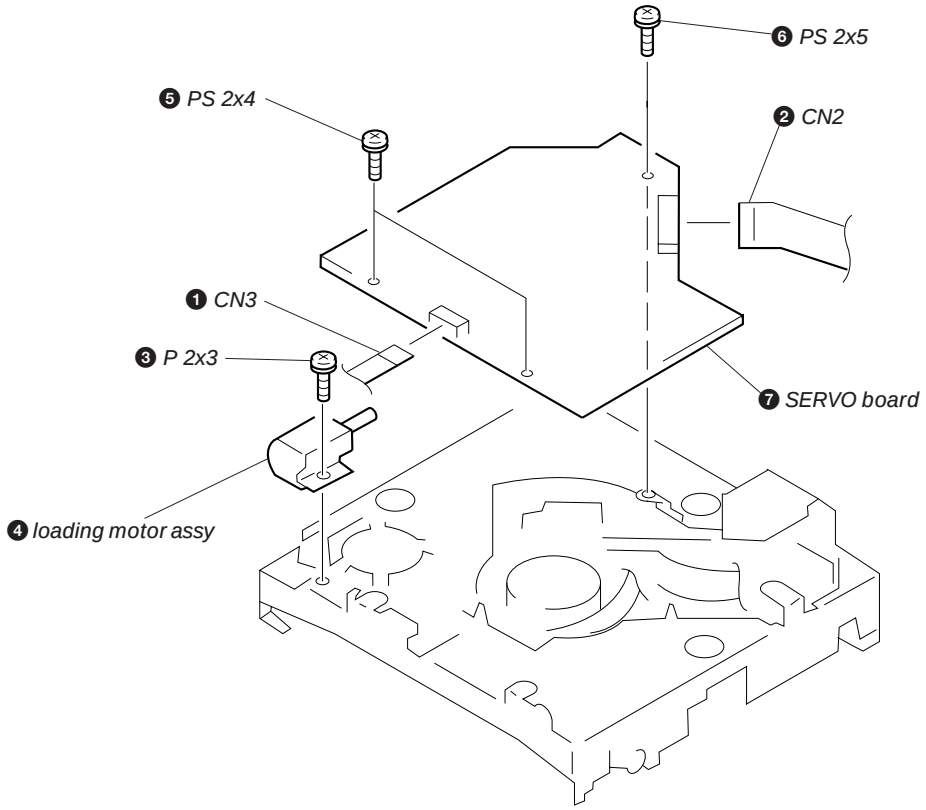
2-7. CHASSIS (T) SUB ASSY



2-8. LEVER ASSY



2-9. SERVO BOARD



2-10. ROLLER ASSY

• When installing, take note of the positions arm (roller) and washers. (Fig. 1)

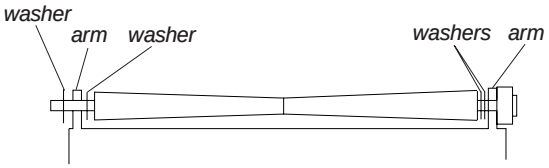
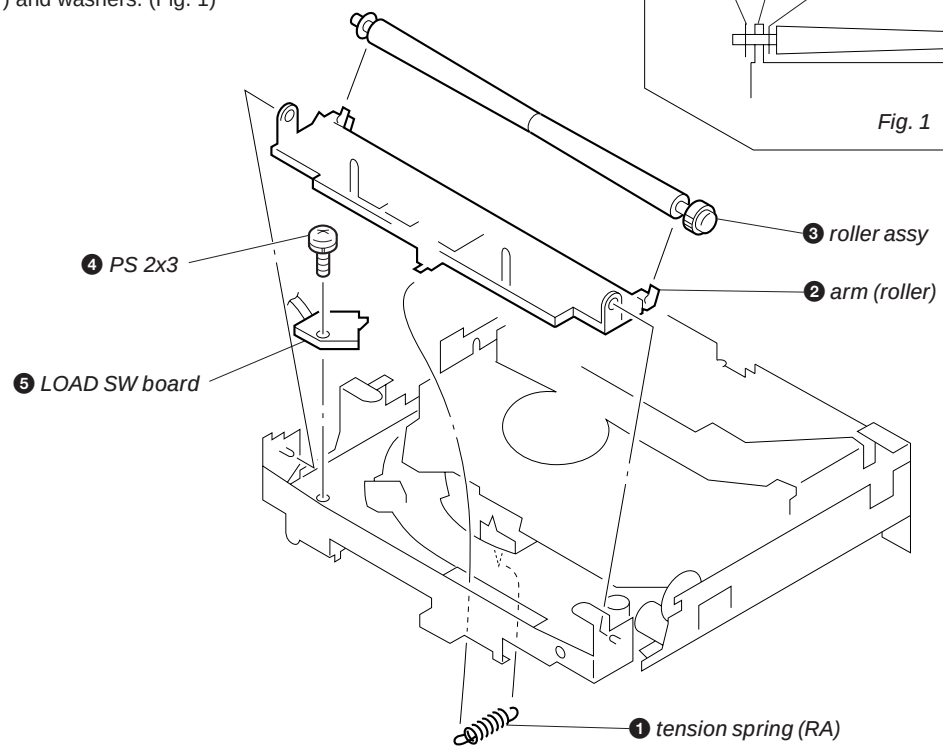
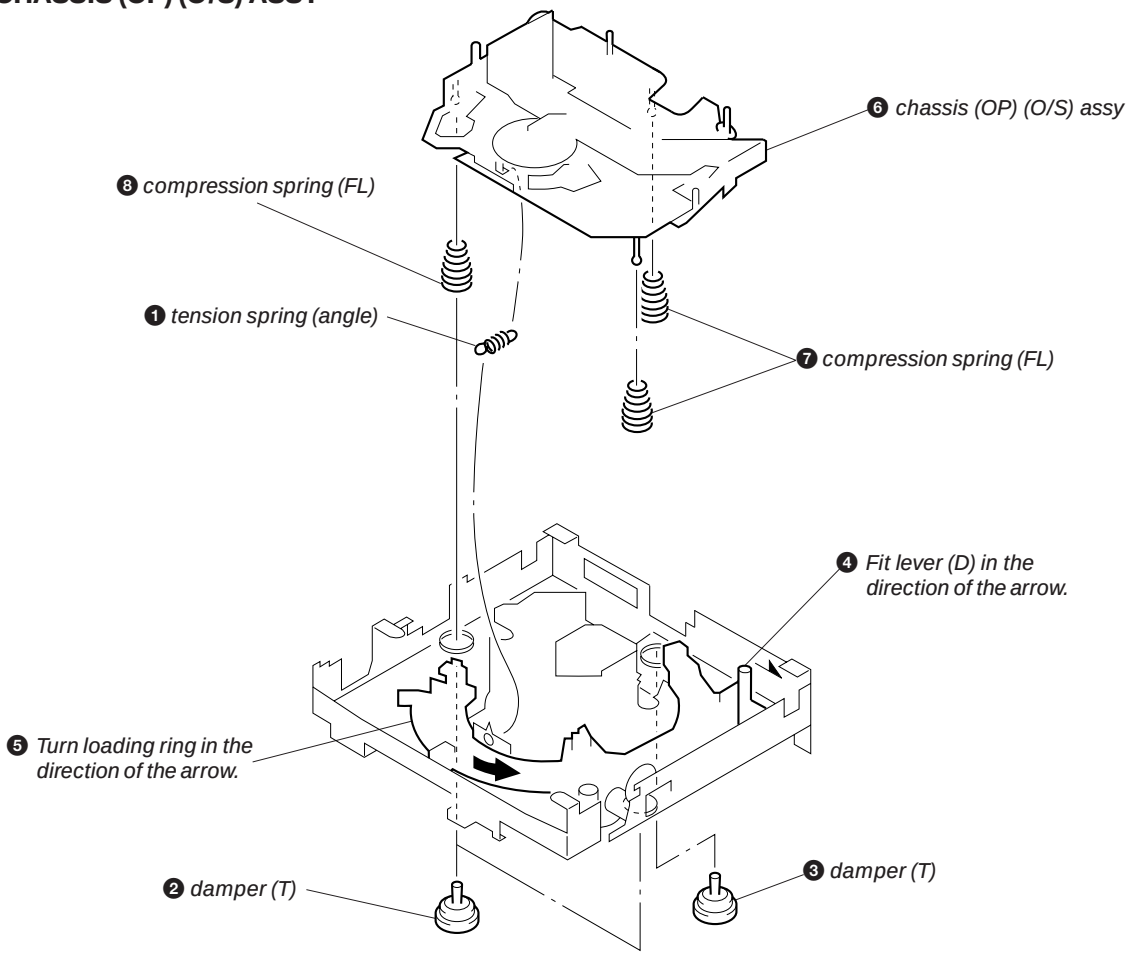


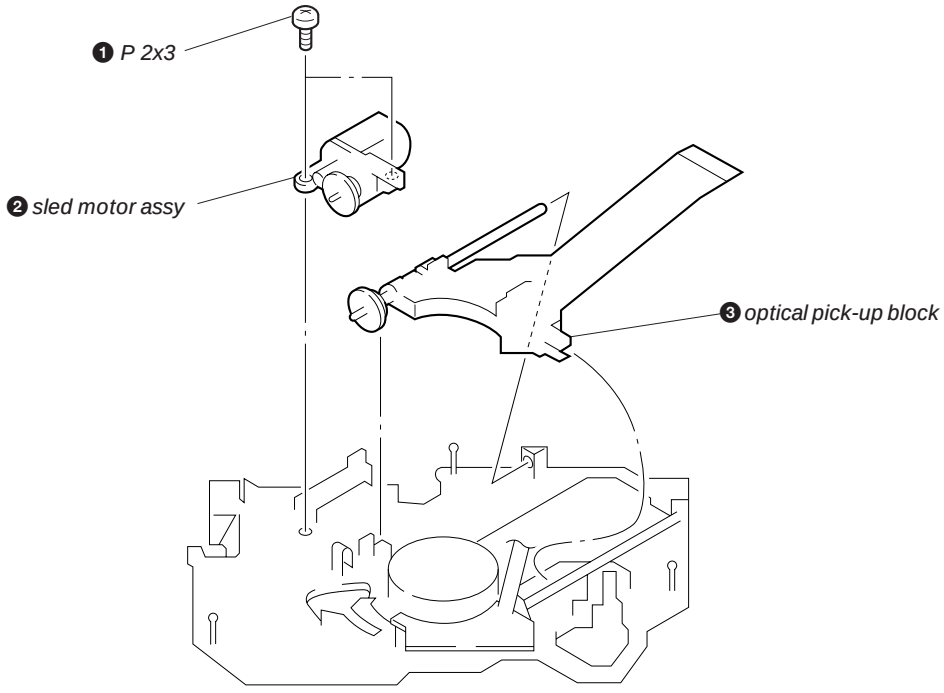
Fig. 1



2-11. CHASSIS (OP) (O/S) ASSY



2-12. OPTICAL PICK-UP BLOCK



SECTION 3
ELECTRICAL ADJUSTMENTS

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and AM Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>
1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

<Release the Test Mode>
1. Push the [OFF] button.

TUNER SECTION **0 dB = 1 µV**

Cautions during repair

When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

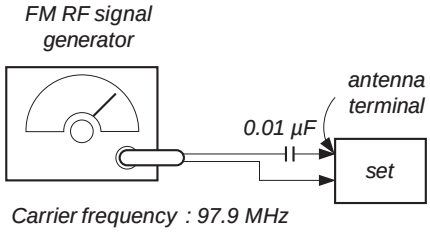
Note on Adjustment

The adjustments of tuner section, should be performed according to the following sequence.
1. FM Auto Scan/Stop Level Adjustment
2. FM Stereo Separation Adjustment
3. AM Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment

Setting :

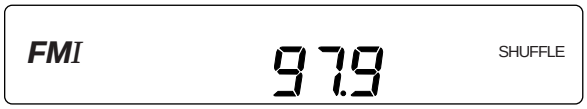
D-BASS switch : OFF
SOURCE button : FMI
FREQUENCY SELECT switch (E model) : FM 200k



Carrier frequency : 97.9 MHz
Output level : 22 dB (12.6 µV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

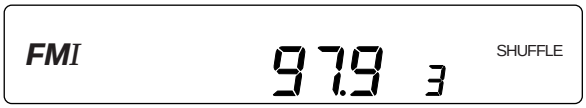
Procedure :
1. Set to the test mode.
2. Push the [SOURCE] button and set to FMI.

Display



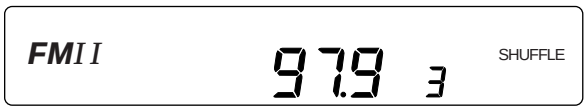
3. Push the preset [3] button.

Display



4. Adjust with the volume RV3 on TU1 so that the "FMI" indication turns to "FMI I" indication on the display window. But, in case of already indicated "FMI I", turn the RV3 so that put out light "I" indication and adjustment.

Display

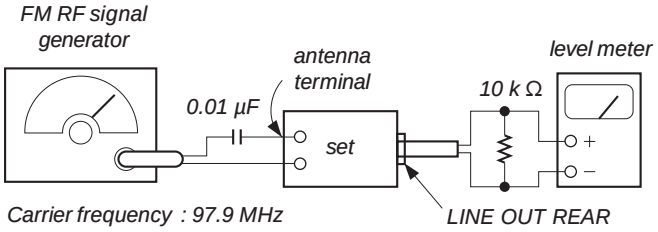


Adjustment Location : See page 17.

FM Stereo Separation Adjustment

Setting :

D-BASS switch : OFF
SOURCE button : FMI
FREQUENCY SELECT switch (E model) : FM 200k



Carrier frequency : 97.9 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main : 1 kHz, 33.75 kHz deviation (45%)
sub : 1 kHz, 33.75 kHz deviation (45%)
19 kHz pilot : 7.5 kHz deviation (10%)

Procedure :

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU1 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU1 for minimum reading.

L-CH stereo separation : Ⓐ – Ⓑ
R-CH stereo separation : Ⓒ – Ⓓ
The separations of both channels should be equal.

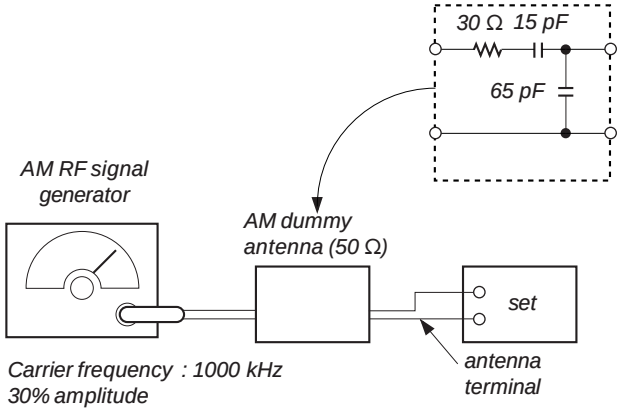
Specification : Separation more than 23 dB

Adjustment Location : See page 17.

AM Auto Scan/Stop Level Adjustment

Setting :

D-BASS switch : OFF
SOURCE ⟶ MODE button : AM
FREQUENCY SELECT switch (E model) : AM 10k



Carrier frequency : 1000 kHz
30% amplitude modulation by 1 kHz signal
output level : 33 dB (44.7 µV)

Procedure :

1. Set to the test mode. (See page 15.)
2. Push the [SOURCE] button.
3. Push the [MODE] button and set to AM.

Display

4. Push the preset [3] button.

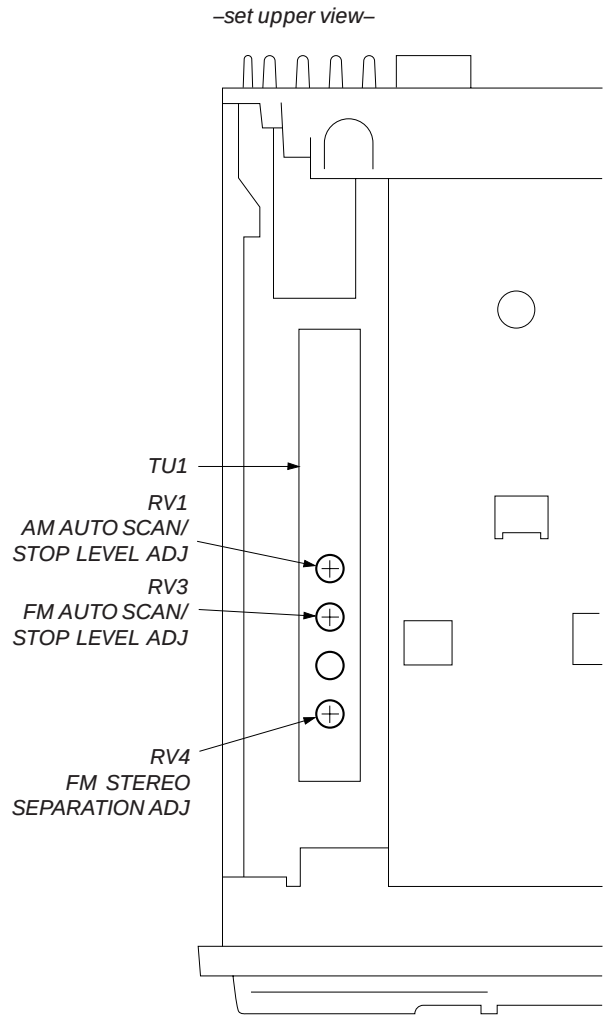
Display

5. Adjust with the volume RV1 on TU1 so that the “AM” indication turns to “IAM” indication on the display window.
   But, in case of already indicated “IAM”, turn the RV1 so that put out light “I” indication and adjustment.

Display

Adjustment Location : See page 17.

Adjustment Location : tuner unit (TU1)

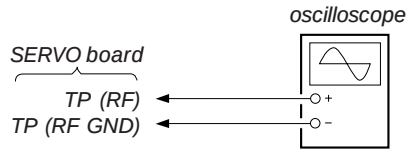


CD SECTION

Note :
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.
4. Clean an objective lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

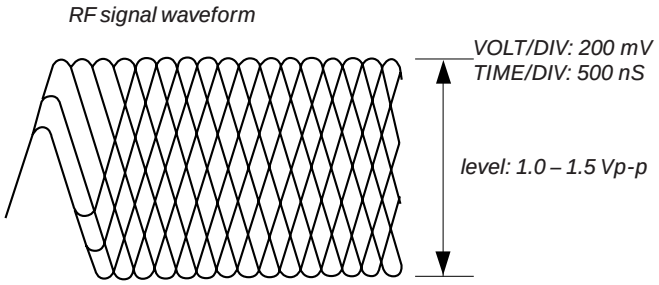
Focus Bias Adjustment

Setting : This adjustment is performed with the set placed horizontally.



Procedure :
1. Connect an oscilloscope between TP (RF) and TP (RF GND) on the SERVO board.
2. Connect the power supply.
3. Push the RESET button (S801) on the main board.
4. Insert the disc (YEDS-18) and playback.
5. Adjust RV1 so that the oscilloscope waveform is clear and check RF signal level is correct or not.

Note : Clear RF signal waveform means that the sharp "◇" can be clearly distinguished at the center of the waveform.



- When observing the eye pattern, set the oscilloscope to AC range and raise the vertical sensitivity so that it may be easily seen.

Adjustment Location : servo board

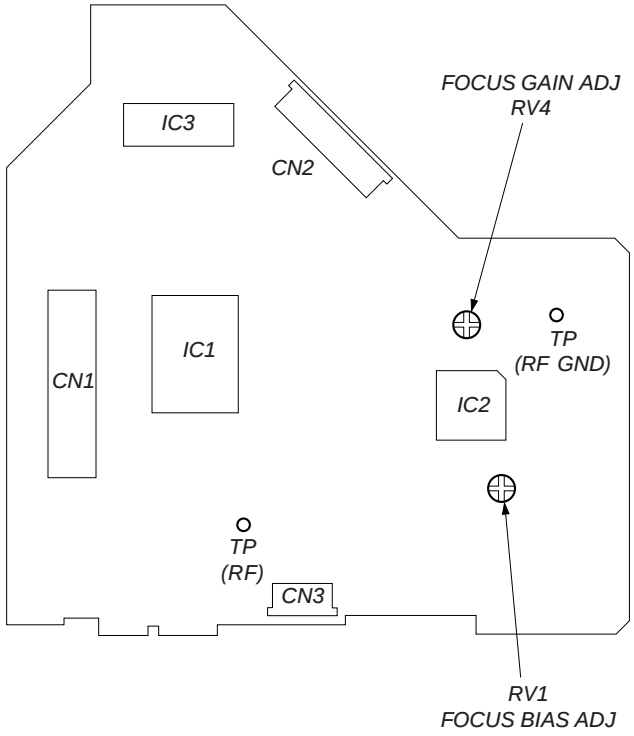
Focus Gain Adjustment (Coarse adjustment)

This adjustment is not required unless the following parts are replaced:
- Optical pick-up
- RV4

Procedure :
1. Set RV4 to the standard position. (mechanical center)
2. Check whether operation noise (while noise type) caused by the 2-axis device (lens section of the optical pick-up) is abnormally loud.
   If the operation noise is too loud, turn RV4 slightly counter-clockwise.
- If the gain is too low :
  Focus does not function and no music is selected.
- If the gain is too high :
  Noise caused by scratches and dust is heard and the operation becomes unstable.

Adjustment Location : servo board

Adjustment Location : servo board (component side)



SECTION 4
DIAGRAMS

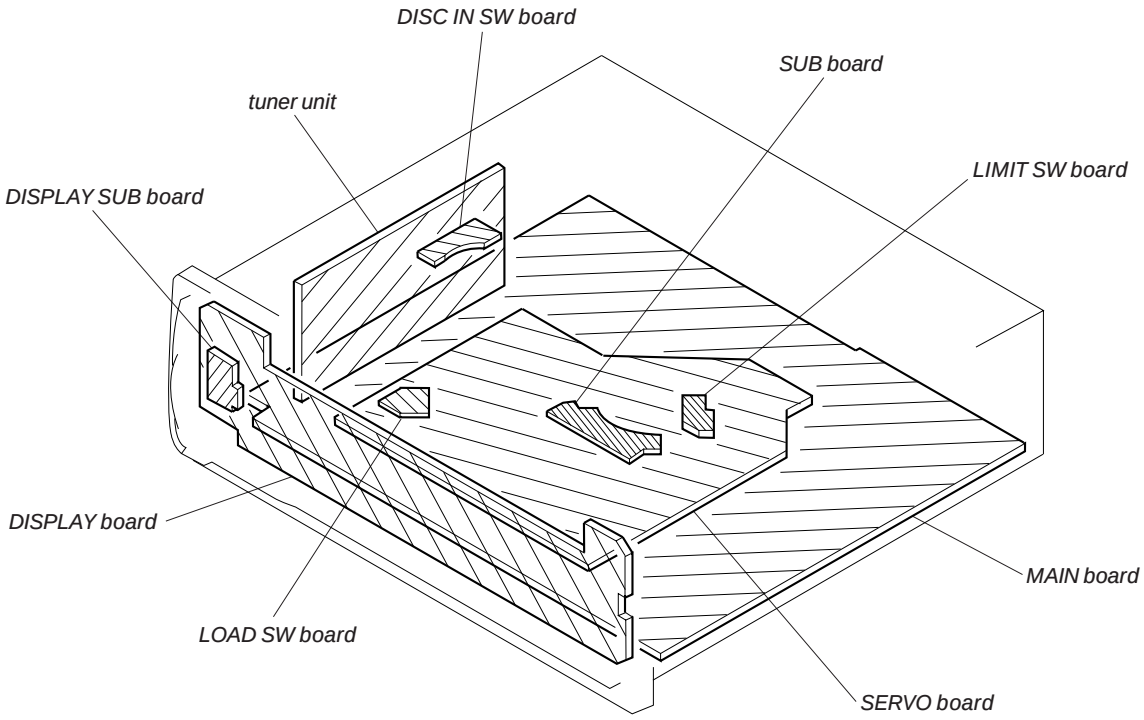
4-1. IC PIN DESCRIPTION

• IC801 μPD17705GC-517-3B9 (SYSTEM CONTROL)

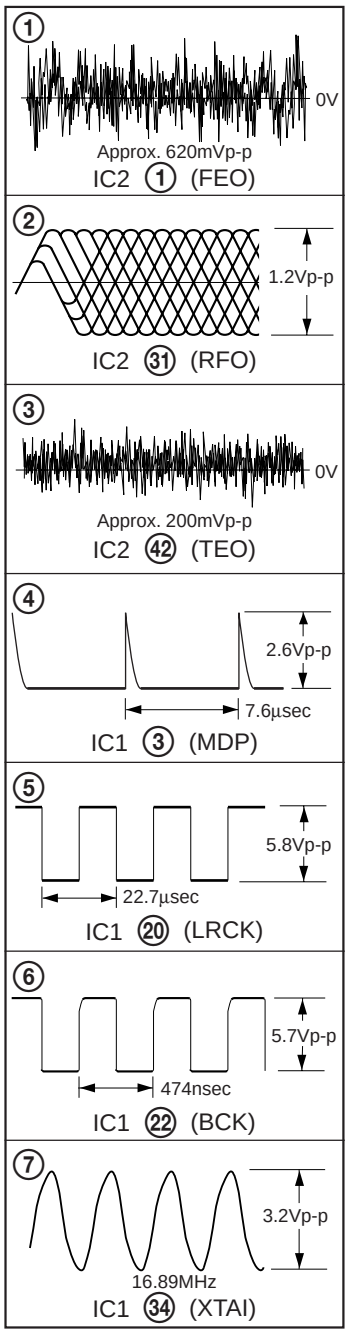
Pin No.	Pin Name	I/O	Pin Description
1	$\overline{\text{NOSE-SW}}$	I	Detachable panel detection
2	$\overline{\text{SELF-SW}}$	I	CD mechanism position detection
3	$\overline{\text{D-SW}}$	I	CD mechanism position detection
4	$\overline{\text{IN-SW}}$	I	CD mechanism position detection
5	$\overline{\text{L-SW}}$	I	LIMIT switch
6	LM-EJ	O	Loading motor control (Eject direction)
7	LM-LOD	O	Loading motor control (Loading direction)
8	ANT-ON	O	Power control for amplifier.
9	NC	–	Not used.
10	SD	I	SD signal input
11	BAND-SW	I	Band plan setting of general area.
12	AREA1-SW	I	Destination select 1
13	AREA2-SW	I	Destination select 2
14, 15	NC	–	Not used.
16	$\overline{\text{SEEK}}$	O	SEEK output
17 – 20	NC	–	Not used.
21	GND3	–	GND
22 – 24	KEYIN3 – 1	I	A/D key input 3 – 1
25	SIRCS	I	SIRCS input (A/D)
26	NC	–	Not used.
27	$\overline{\text{TEST-SW}}$	I	TEST mode select input
28	AM-IFC	I	AM center frequency input
29	FM-IFC	I	FM center frequency input
30	VDD2	–	Power supply (+5 V)
31	VCOH-FM	I	Local oscillation frequency input (FM)
32	VCOL-AM	I	Local oscillation frequency input (AM)
33	GND2	–	GND
34	EO0	O	Not used.
35	EO1-PDOUT	O	Error out output
36	TEST0	–	Fixed at “L”.
37	AM-ON	O	AM power output (AM select)
38	FM-ON	O	FM power output (FM select)
39	LCL/$\overline{\text{DX}}$	O	LOCAL/$\overline{\text{DX}}$ select (“H”: LOCAL, “L”: DX)
40	BEEP	O	BEEP output
41	$\overline{\text{ACC-IN}}$	I	Accessory input
42	SCOR	I	SUBQ data read request
43	MUTE	O	System mute output
44	$\overline{\text{AMP-MUTE}}$	O	Power amplifier mute output
45, 46	NC	–	Not used.
47	VOL-CE	O	Electric volume chip select
48	VOL-CLK	O	Electric volume serial clock
49	VOL-DATA	O	Electric volume serial data
50	EMPHO	O	De-emphasis control output
51	PW-ON	O	System power control
52	MD-ON	O	Loading motor power
53	CD-ON	O	Servo drive power

Pin No.	Pin Name	I/O	Pin Description
54	ILL-ON	O	Illumination output
55, 56	MOD1, 2	O	Bus boost control
57	MOD3	O	Not used.
58	LCD-CE	O	LCD driver chip select output
59	EZ-SEL	I	SHIFT + input
60	SENS	I	Information input from servo IC.
61	FOK	I	Focus OK input
62	$\overline{\text{LD-ON}}$	O	Laser diode control
63	NC	–	Not used.
64	ST/$\overline{\text{MONO}}$	I/O	STEREO input/$\overline{\text{MONO}}$ output
65	LCD-CKO	O	LCD driver serial clock output
66	LCD-SO	O	LCD driver serial data output
67	$\overline{\text{LCD-INH}}$	O	LCD inhibit output
68	SQ-CKO	O	Q data read serial clock output
69	CD-RST	O	Servo IC/DAC reset output
70	SQ-SI	I	Q data input
71	CD-SO	O	Serial data output to servo IC.
72	CD-LAT	O	Data latch output to servo IC.
73	CD-CKO	O	Serial clock output to servo IC.
74	VREG1	–	Connect to VDD.
75	GND1	–	GND
76	X-OUT	–	Crystal oscillator connection (4.5 MHz)
77	X-IN	I	Crystal oscillator connection (4.5 MHz)
78	CE	I	Back-up detection
79	VDD1	–	Power supply (+5 V)
80	$\overline{\text{RESET}}$	I	RESET input

4-2. CIRCUIT BOARDS LOCATION

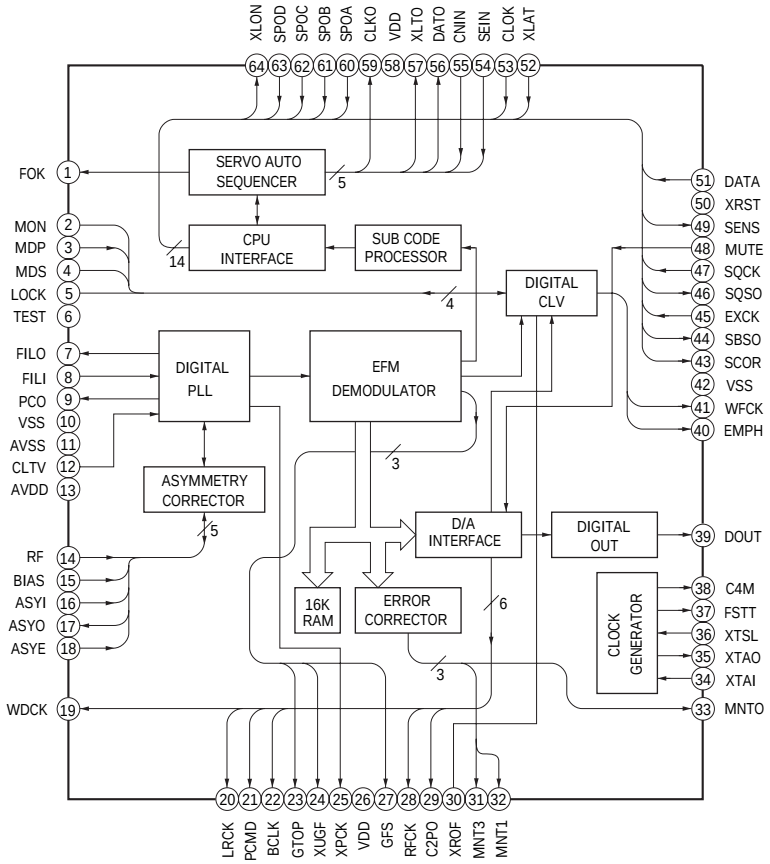


• **Waveforms** (MODE:PLAY)

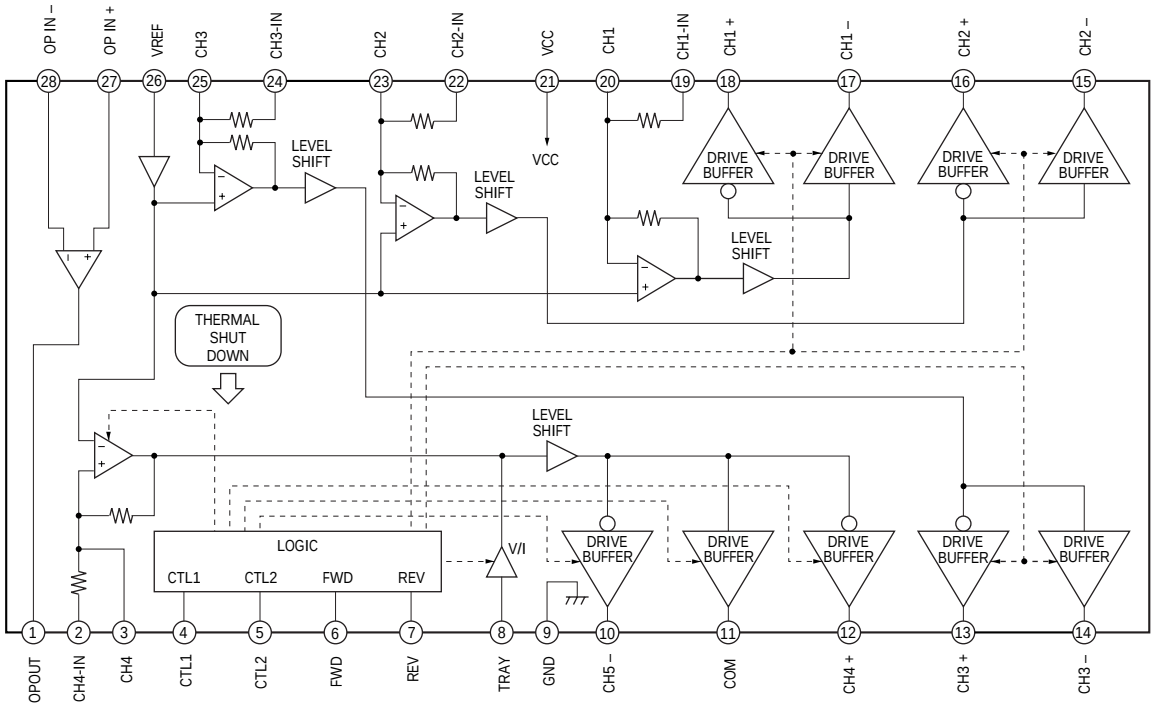


• IC Block Diagrams

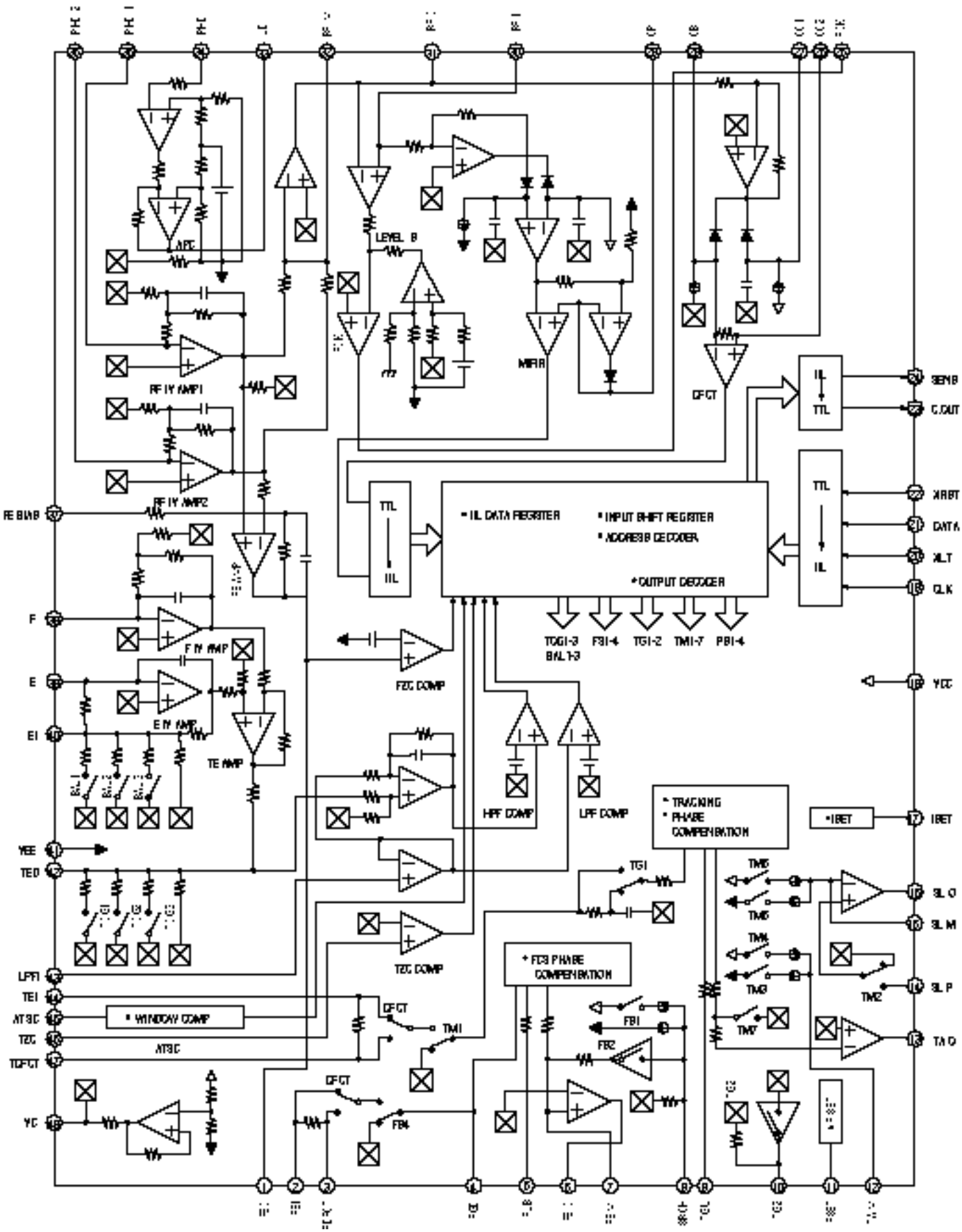
IC1 CXD2507AQ



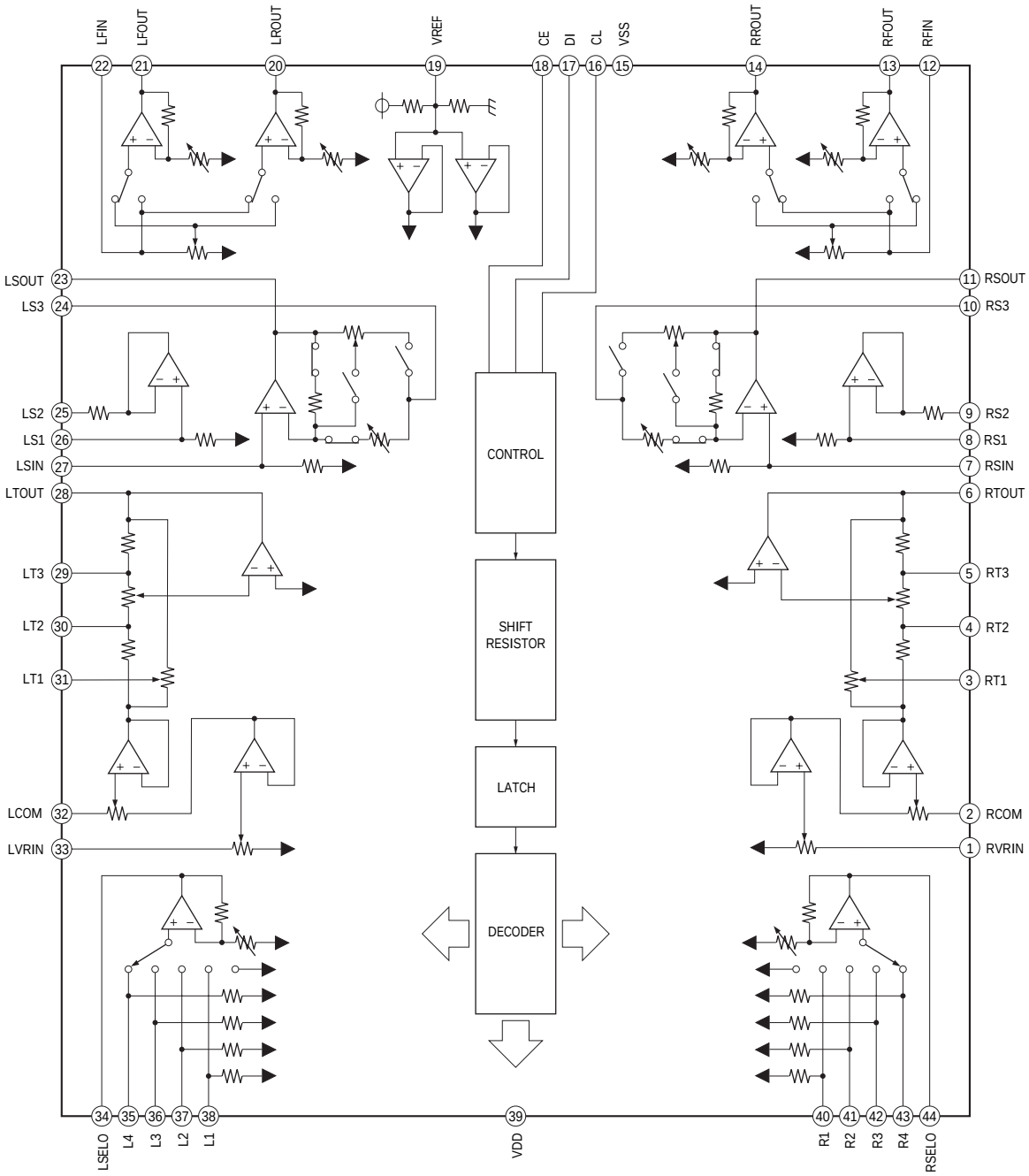
IC3 BA6796FP-T1



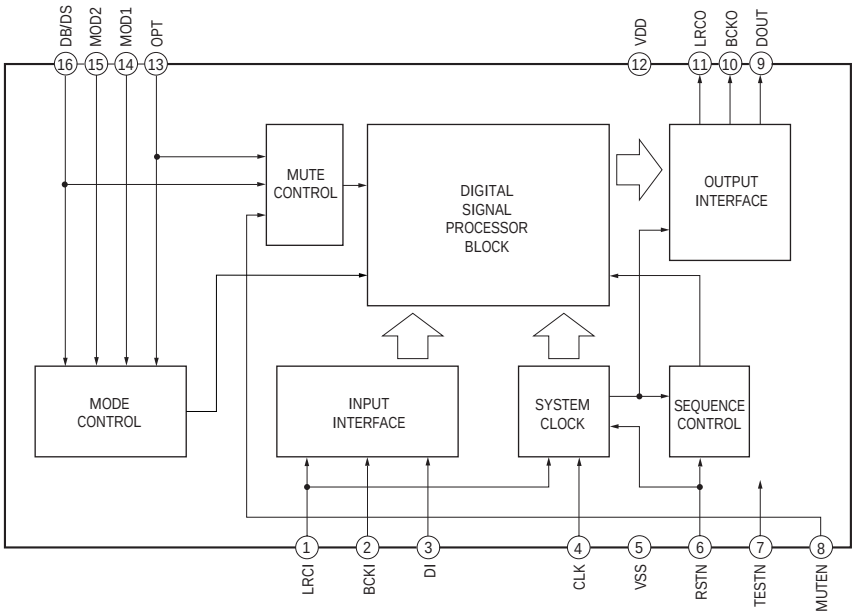
IC2 CXA1782BQ



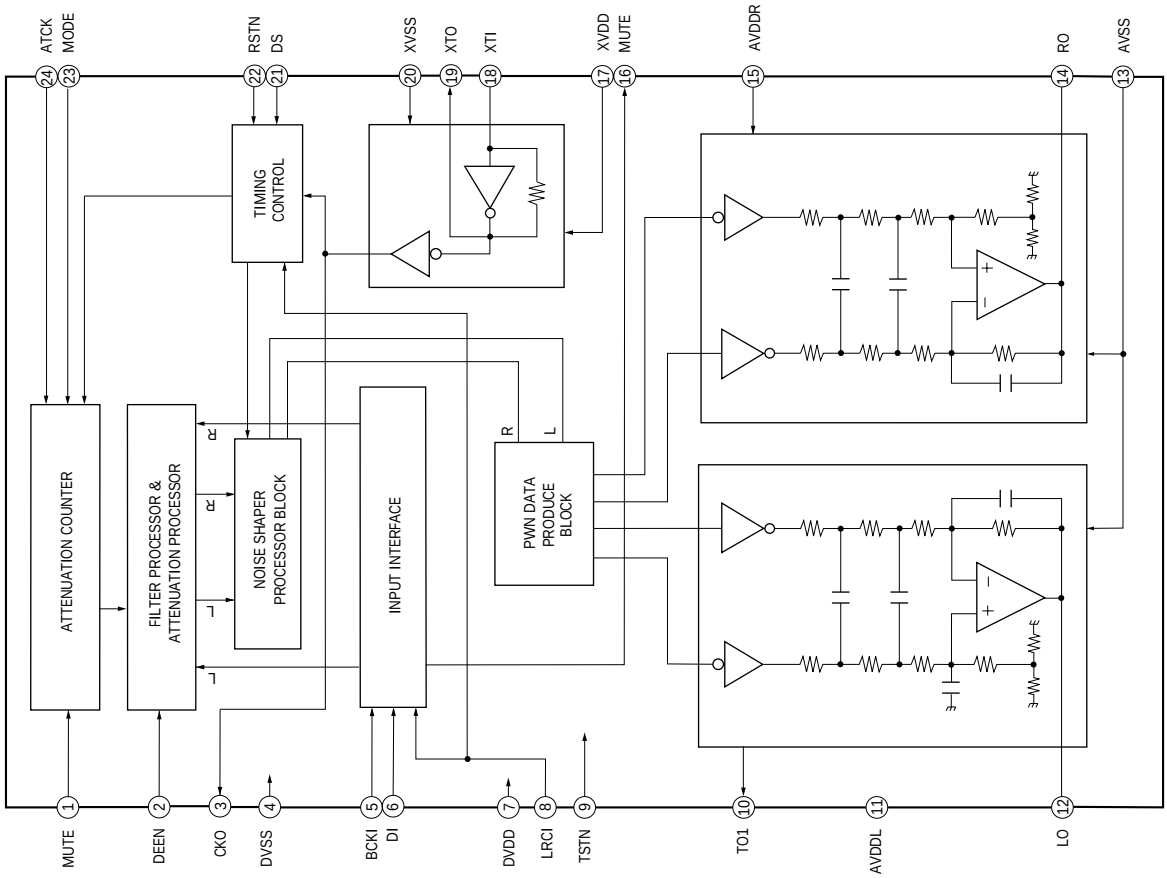
IC401 LC75373ED



IC701 SM5852ES-E2



IC702 SM5877AM



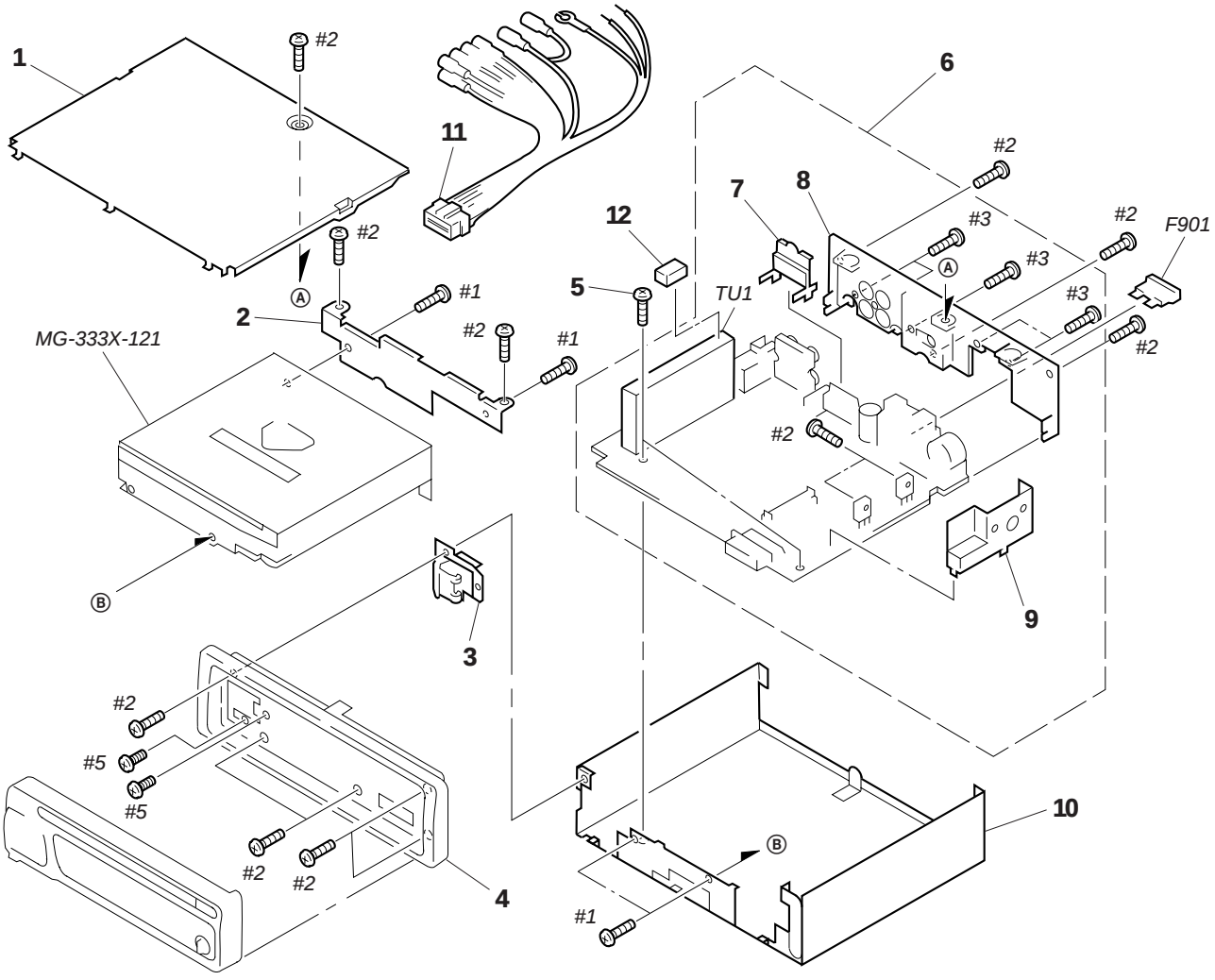
SECTION 5
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

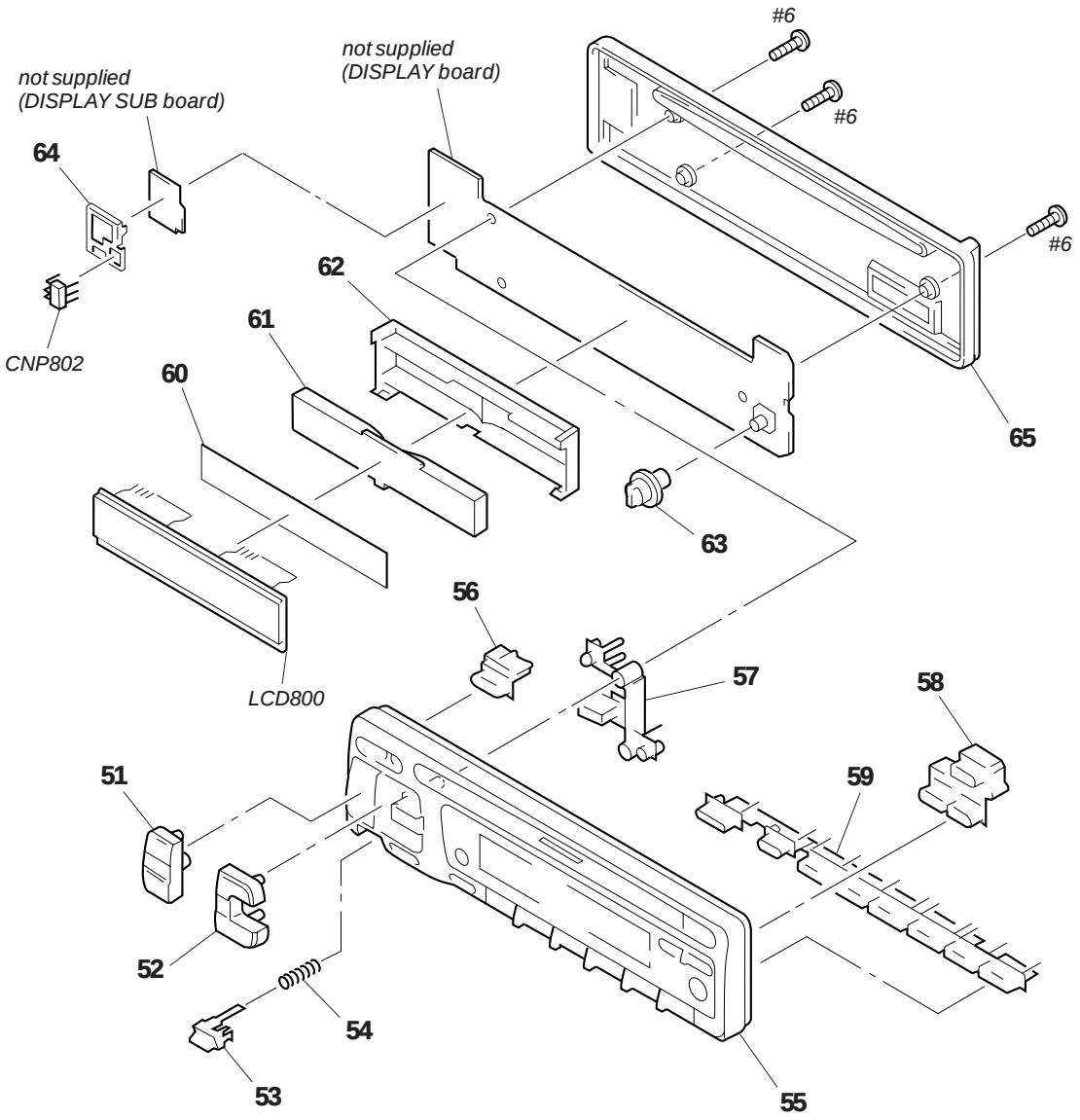
Les composants identifiés par une marque ⚠ sont critiques pour la sécurite.
Ne les remplacer que par une pièce portant le numéro spécifié.

5-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 1	X-3371-549-1	COVER ASSY	
* 2	3-009-349-01	BRACKET (M/D)	
3	X-3367-636-1	LOCK ASSY	
4	X-3373-133-1	PANEL (1) ASSY, SUB	
5	3-922-535-11	SCREW (+BTT)	
* 6	A-3294-203-A	MAIN BOARD, COMPLETE (US,Canadian)	
* 6	A-3294-248-A	MAIN BOARD, COMPLETE (E)	
* 7	3-931-260-01	BRACKET (IC)	
* 8	3-009-353-01	HEAT SINK	
* 9	3-009-350-01	BRACKET (REG)	
* 10	3-009-348-01	CHASSIS (MAIN)	
11	1-769-786-71	CORD (WITH CONNECTOR) (POWER)	
12	9-911-844-XX	SPACER, MOTOR	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
TU1	A-3282-029-A	TUNER UNIT (TUX-006/2 (E))	

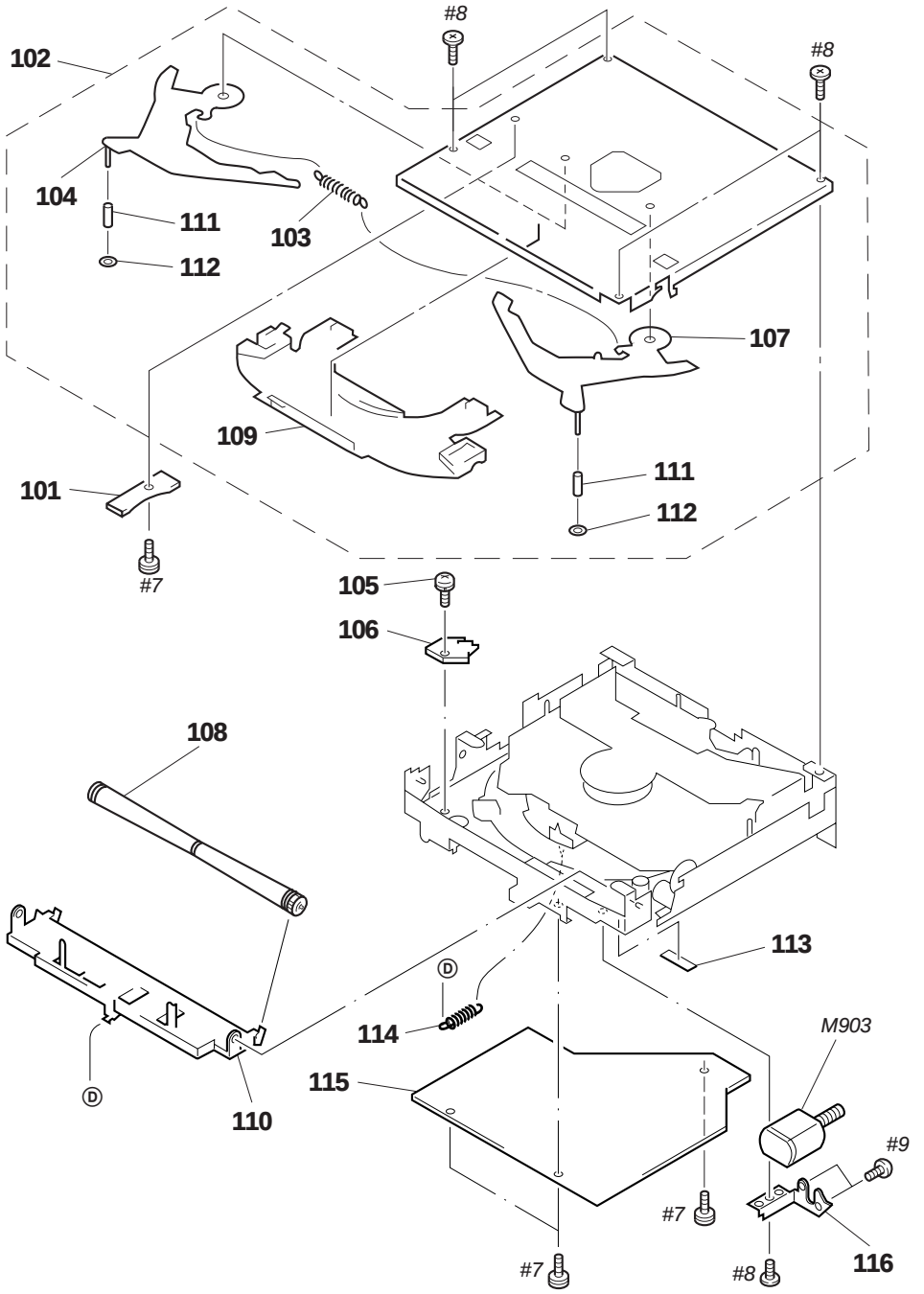
5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-009-376-01	BUTTON (SEEK/AMS)	
52	3-009-332-01	BUTTON (+/-)	
53	3-009-329-01	BUTTON (RELEASE)	
54	3-013-634-01	SPRING (RELEASE)	
55	X-3373-135-1	PANEL SUB ASSY, FRONT	
56	3-009-334-01	BUTTON (SOURCE)	
57	3-009-333-01	BUTTON (DSPL)	
58	3-009-331-01	BUTTON (EJECT)	
59	3-009-330-01	BUTTON (1-6)	

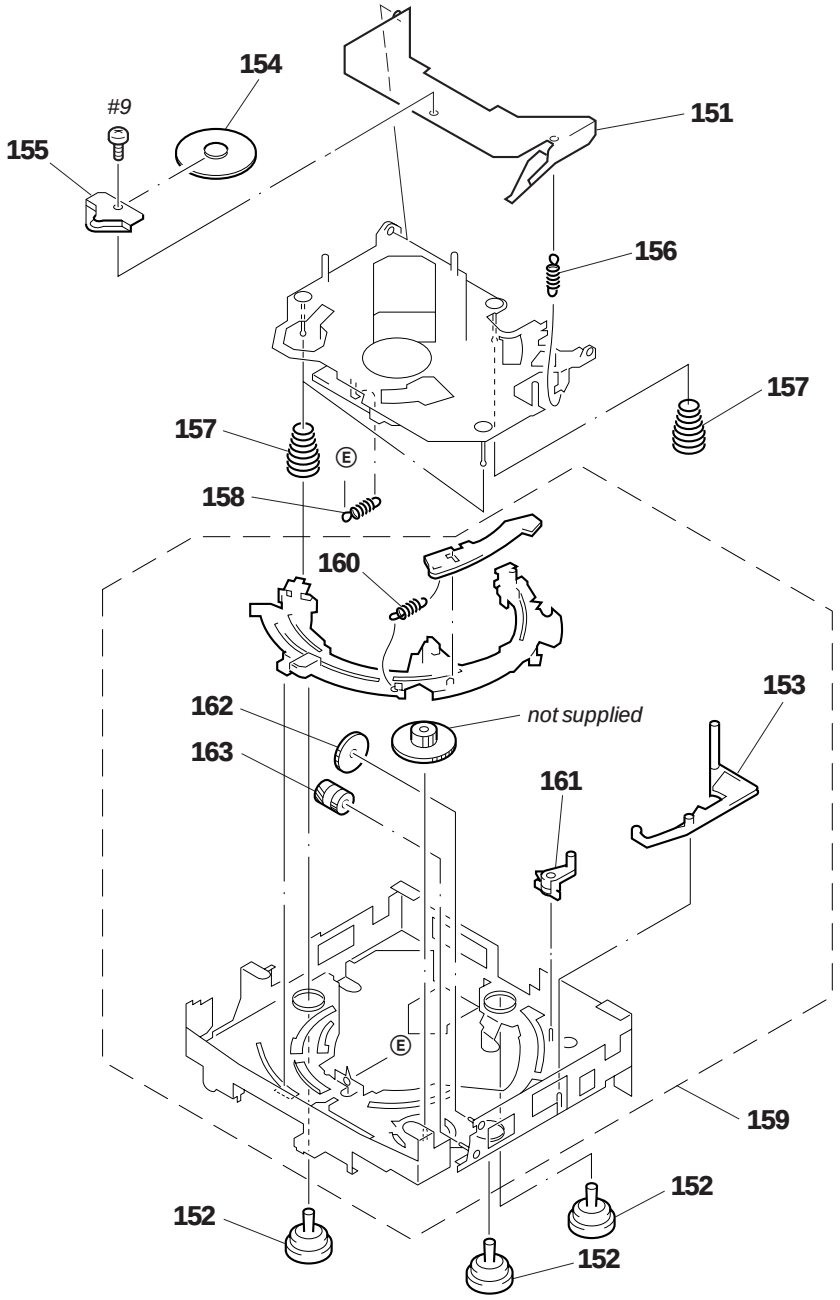
Ref. No.	Part No.	Description	Remark
* 60	3-009-341-01	SHEET (LCD)	
* 61	3-009-335-01	PLATE (LCD), LIGHT GUIDE	
* 62	3-009-337-01	HOLDER (LCD)	
63	3-009-339-01	KNOB (D-BASS)	
* 64	3-009-371-01	BRACKET (PCB)	
65	3-009-355-01	PANEL, FRONT BACK	
* CNP802	1-779-129-11	PIN, CONNECTOR 3P	
LCD800	1-801-674-11	DISPLAY PANEL, LIQUID CRYSTAL	

5-3. CD MECHANISM SECTION (1)
(MG-333X-121)



Ref. No.	Part No.	Description	Remark
* 101	1-659-836-11	DISC IN SW BOARD	
* 102	A-3291-816-A	CHASSIS (T) SUB ASSY	
103	3-931-909-01	SPRING (LR), TENSION	
104	X-3371-501-1	LEVER (L) ASSY	
105	3-338-737-01	SCREW (2X3), + PS	
* 106	1-659-837-11	LOAD SW BOARD	
107	X-3371-502-1	LEVER (R) ASSY	
108	A-3291-672-A	ROLLER ASSY	
109	3-931-908-01	GUIDE (DISC)	
110	3-931-902-01	ARM (ROLLER)	
111	3-936-756-01	ROLLER (D)	
112	3-321-393-01	WASHER, STOPPER	
* 113	3-939-139-01	SPACER	
114	3-931-916-01	SPRING (RA), TENSION	
* 115	A-3309-227-A	SERVO BOARD, COMPLETE	
* 116	3-007-530-01	BRACKET (MOTOR)	
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING	

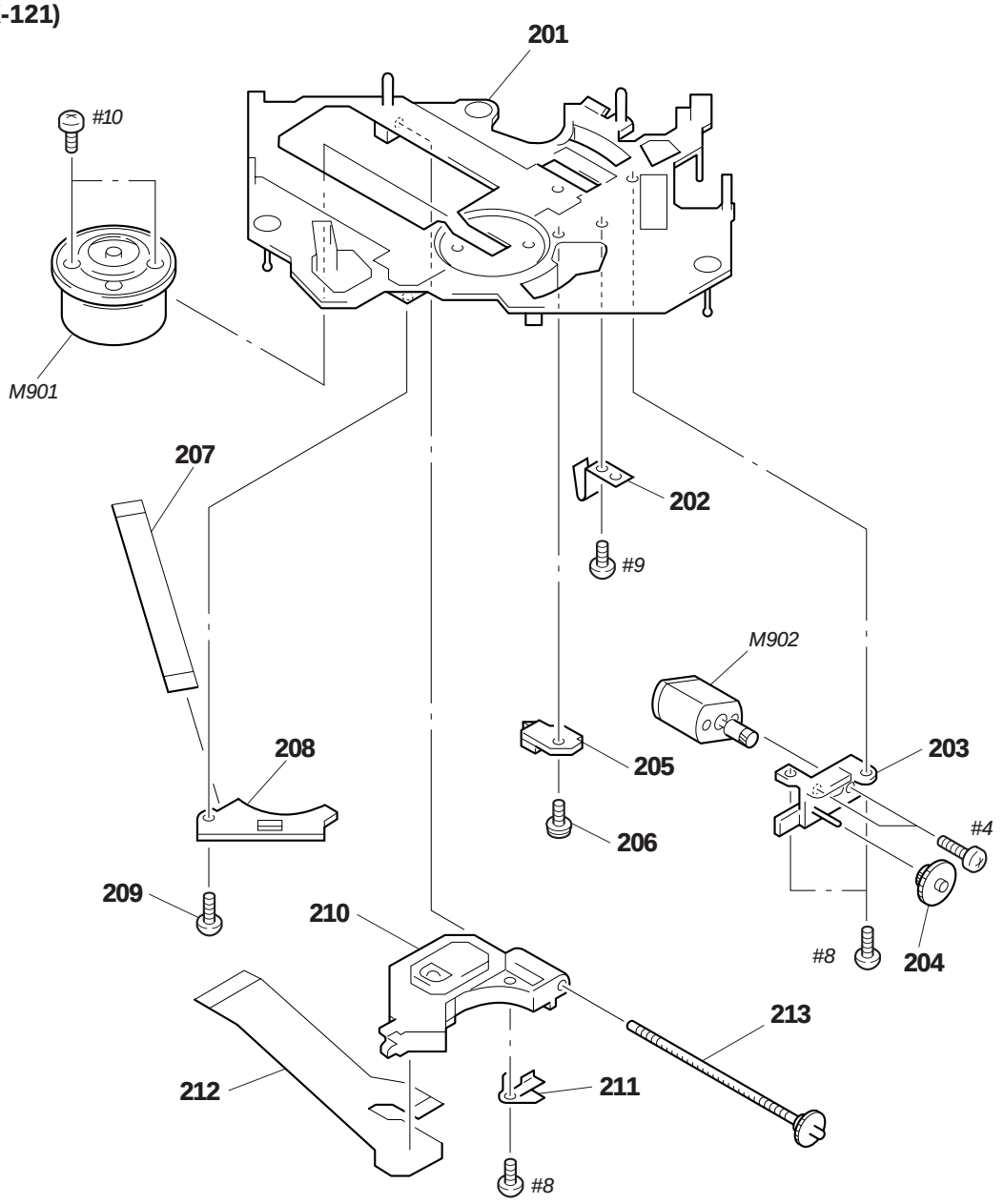
5-4. CD MECHANISM SECTION (2)
(MG-333X-121)



Ref. No.	Part No.	Description	Remark
151	3-931-893-01	ARM, CHUCKING	
152	3-931-897-01	DAMPER (T)	
153	3-931-879-02	LEVER (D)	
* 154	3-913-404-11	RETAINER (DISC)	
155	3-931-894-01	BRACKET (CP)	
156	3-931-895-01	SPRING (CH), TENSION	
157	3-931-898-01	SPRING (FL), COMPRESSION	

Ref. No.	Part No.	Description	Remark
158	3-931-914-01	SPRING (ANGLE), TENSION	
* 159	A-3291-677-A	CHASSIS (M) ASSY, COMPLETE	
160	3-931-883-01	SPRING (TR), TENSION	
161	3-931-881-01	LEVER (LOCK)	
162	3-931-882-02	GEAR (MDL)	
163	3-007-537-01	WHEEL (U), WORM	

5-5. CD MECHANISM SECTION (3)
(MG-333X-121)



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurite. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
* 201	X-3371-503-1	CHASSIS (OP) (O/S) ASSY	
202	3-931-829-01	SPRING (SL), PLATE	
203	X-3371-504-1	BASE (DRIVING) ASSY	
204	3-931-832-01	GEAR (SL MIDWAY)	
* 205	1-659-835-12	LIMIT SW BOARD	
206	3-338-737-01	SCREW (2X3), + PS	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
* 208	1-659-834-11	SUB BOARD	
209	3-909-607-01	SCREW	
⚠ 210	8-848-402-02	PICK-UP, OPTICAL KSS-520A/J2NP	
211	3-931-834-01	SPRING (FEED), PLATE	
212	1-659-881-11	PICK-UP FLEXIBLE BOARD	
213	A-3291-669-A	SHAFT (FEED) ASSY	
M901	X-3371-664-1	MOTOR ASSY (SPINDLE)	
M902	A-3291-674-A	MOTOR ASSY, SLED	

DISC IN SW **DISPLAY**

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurite.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-659-836-11	DISC IN SW BOARD			
		**********			
		< SWITCH >			
SW1	1-572-288-11	SWITCH, PUSH (DISC IN)			
SW2	1-572-288-11	SWITCH, PUSH (SELF)			
**********					
		DISPLAY BOARD			
		**********			
*	3-009-335-01	PLATE (LCD), LIGHT GUIDE			
*	3-009-337-01	HOLDER (LCD)			
*	3-009-341-01	SHEET (LCD)			
*	3-009-371-01	BRACKET (PCB)			
		< CAPACITOR >			
C851	1-163-137-00	CERAMIC CHIP	680PF	5% 50V	
C852	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C853	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	
		< CONNECTOR >			
CNP801	1-764-423-11	PIN, CONNECTOR 12P			
* CNP802	1-779-129-11	PIN, CONNECTOR 3P			
		< DIODE >			
D851	8-719-976-99	DIODE DTZ5.1B			
D852	8-719-052-61	LED SLR-342PGT31 (SENS)			
D853	8-719-052-61	LED SLR-342PGT31 (⏏)			
D854	8-719-052-61	LED SLR-342PGT31 (A.MEM)			
D855	8-719-064-19	LED SLR-342PG (6)			
D856	8-719-052-61	LED SLR-342PGT31 (2/REPEAT)			
D857	8-719-052-61	LED SLR-342PGT31 (3/SHUF)			
D858	8-719-052-61	LED SLR-342PGT31 (4)			
D859	8-719-052-61	LED SLR-342PGT31 (5)			
D860	8-719-052-61	LED SLR-342PGT31 (SEL)			
D861	8-719-052-61	LED SLR-342PGT31 (MODE)			
D862	8-719-052-61	LED SLR-342PGT31 (SOURCE)			
D863	8-719-052-61	LED SLR-342PGT31 (+)			
D864	8-719-052-61	LED SLR-342PGT31 (MUTE)			
D865	8-719-052-61	LED SLR-342PGT31 (-)			
D868	8-719-052-61	LED SLR-342PGT31 (DSPL)			
D869	8-719-052-61	LED SLR-342PGT31 (OFF)			
D870	8-719-052-61	LED SLR-342PGT31 (1/INTRO)			
D872	8-719-105-99	DIODE RD6.2M-B1			
D873	8-719-105-99	DIODE RD6.2M-B1			
D874	8-719-105-99	DIODE RD6.2M-B1			
D875	8-719-105-99	DIODE RD6.2M-B1			
		< IC >			
IC801	8-759-369-90	IC LC75822ED			
		< JUMPER RESISTOR >			
JR802	1-216-295-00	CONDUCTOR, CHIP	(2012)		
JR804	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR805	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR806	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR807	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR808	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR809	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR810	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR811	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR812	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR816	1-216-295-00	CONDUCTOR, CHIP	(2012)		
JR817	1-216-295-00	CONDUCTOR, CHIP	(2012)		
JR818	1-216-295-00	CONDUCTOR, CHIP	(2012)		
		< LIQUID CRYSTAL DISPLAY >			
LCD800	1-801-674-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< PILOT LAMP >			
PL801	1-517-677-11	LAMP, PILOT			
PL802	1-517-677-11	LAMP, PILOT			
		< RESISTOR >			
R841	1-216-193-11	METAL CHIP	620	5% 1/8W	
R842	1-216-193-11	METAL CHIP	620	5% 1/8W	
R851	1-216-090-00	METAL CHIP	51K	5% 1/10W	
R852	1-216-049-11	METAL GLAZE	1K	5% 1/10W	
R854	1-249-407-11	CARBON	150	5% 1/4W	

Ref. No.	Part No.	Description				Remark
R855	1-249-407-11	CARBON	150	5%	1/4W	
R856	1-249-414-11	CARBON	560	5%	1/4W	
R857	1-249-414-11	CARBON	560	5%	1/4W	
R859	1-249-414-11	CARBON	560	5%	1/4W	
R860	1-249-414-11	CARBON	560	5%	1/4W	
R861	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R862	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R863	1-247-843-11	CARBON	3.3K	5%	1/4W	
R864	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R865	1-249-429-11	CARBON	10K	5%	1/4W	
R867	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R868	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R869	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R870	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R871	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R872	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R873	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R874	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R875	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R876	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R877	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R878	1-247-843-11	CARBON	3.3K	5%	1/4W	
R879	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R880	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R881	1-216-077-00	METAL CHIP	15K	5%	1/10W	
		< SWITCH >				
S801	1-572-704-31	SWITCH, KEY BOARD (⏏)				
S802	1-572-704-31	SWITCH, KEY BOARD (A.MEM)				
S803	1-572-704-31	SWITCH, KEY BOARD (SENS)				
S804	1-572-704-31	SWITCH, KEY BOARD (4)				
S805	1-572-704-31	SWITCH, KEY BOARD (5)				
S806	1-572-704-31	SWITCH, KEY BOARD (6)				
S807	1-762-937-11	SWITCH, ROTARY (D-BASS)				
S808	1-572-704-31	SWITCH, KEY BOARD (SOURCE)				
S809	1-572-704-31	SWITCH, KEY BOARD (MODE)				
S811	1-572-704-31	SWITCH, KEY BOARD (- ⏮ ◀◀ (SEEK/AMS))				
S812	1-572-704-31	SWITCH, KEY BOARD (SEL)				
S813	1-572-704-31	SWITCH, KEY BOARD (+)				
S815	1-572-704-31	SWITCH, KEY BOARD (OFF)				
S816	1-572-704-31	SWITCH, KEY BOARD (MUTE)				
S817	1-572-704-31	SWITCH, KEY BOARD (-)				
S818	1-572-704-31	SWITCH, KEY BOARD (DSPL)				
S819	1-572-704-31	SWITCH, KEY BOARD (1/INTRO)				
S820	1-572-704-31	SWITCH, KEY BOARD (2/REPEAT)				
S821	1-572-704-31	SWITCH, KEY BOARD (3/SHUF)				

****

Ref. No.	Part No.	Description				Remark
		DISPLAY SUB BOARD				
		**********				
		< DIODE >				
D866	8-719-052-61	LED SLR-342PGT31 (- ⏮ ◀◀ (SEEK/AMS))				
D867	8-719-052-61	LED SLR-342PGT31 (+ ▶▶⏭ ▶▶ (SEEK/AMS))				
		< SWITCH >				
S810	1-572-704-31	SWITCH, KEY BOARD (+ ▶▶⏭ ▶▶ (SEEK/AMS))				

****

*	1-659-835-12	LIMIT SW BOARD				
		**********				
		< SWITCH >				
SW3	1-572-688-11	SWITCH, PUSH (1 KEY) (LIMIT)				

****

*	1-659-837-11	LOAD SW BOARD				
		**********				
		< SWITCH >				
SW4	1-572-288-11	SWITCH, PUSH (DOWN)				

****

*	A-3294-203-A	MAIN BOARD, COMPLETE (US,Canadian)				
*	A-3294-248-A	MAIN BOARD, COMPLETE (E)				
		**********				
*	3-009-350-01	BRACKET (REG)				
*	3-009-353-01	HEAT SINK				
*	3-931-260-01	BRACKET (IC)				
	7-685-792-09	SCREW +PTT 2.6X6 (S)				
	7-685-793-09	SCREW +PTT 2.6X8 (S)				
		< CAPACITOR >				
C101	1-163-010-11	CERAMIC CHIP	0.0012uF	10%	50V	
C102	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V	
C103	1-164-346-11	CERAMIC CHIP	1uF		16V	
C104	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V	(US,Canadian)
C104	1-164-232-11	CERAMIC CHIP	0.01uF		50V	(E)
C105	1-126-160-11	ELECT	1uF	20%	50V	
C106	1-126-160-11	ELECT	1uF	20%	50V	
C107	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	
C108	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	
C109	1-126-157-11	ELECT	10uF	20%	16V	
C112	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V	
C113	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V	
C114	1-126-157-11	ELECT	10uF	20%	16V	

MAIN

Ref. No.	Part No.	Description			Remark
C115	1-126-157-11	ELECT	10uF	20%	16V
C116	1-126-157-11	ELECT	10uF	20%	16V
C117	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C120	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C201	1-163-010-11	CERAMIC CHIP	0.0012uF	10%	50V
C202	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C203	1-164-346-11	CERAMIC CHIP	1uF		16V
C204	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V (US,Canadian)
C204	1-164-232-11	CERAMIC CHIP	0.01uF		50V (E)
C205	1-126-160-11	ELECT	1uF	20%	50V
C206	1-126-160-11	ELECT	1uF	20%	50V
C207	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C208	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C209	1-126-157-11	ELECT	10uF	20%	16V
C212	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C213	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C214	1-126-157-11	ELECT	10uF	20%	16V
C215	1-126-157-11	ELECT	10uF	20%	16V
C216	1-126-157-11	ELECT	10uF	20%	16V
C217	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C218	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C219	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C220	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C301	1-124-257-00	ELECT	2.2uF	20%	50V
C401	1-124-584-00	ELECT	100uF	20%	10V
C402	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C403	1-124-234-00	ELECT	22uF	20%	16V
C404	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C405	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C406	1-124-242-00	ELECT	33uF	20%	25V
C407	1-126-163-11	ELECT	4.7uF	20%	50V
C408	1-164-346-11	CERAMIC CHIP	1uF		16V
C409	1-126-163-11	ELECT	4.7uF	20%	50V
C601	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C604	1-124-234-00	ELECT	22uF	20%	16V
C605	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C606	1-124-589-11	ELECT	47uF	20%	16V
C607	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C608	1-124-589-11	ELECT	47uF	20%	16V
C610	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C613	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C614	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V (E)
C614	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V (US,Canadian)

Ref. No.	Part No.	Description			Remark
C615	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V (E)
C615	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V (US,Canadian)
C619	1-126-157-11	ELECT	10uF	20%	16V
C620	1-126-157-11	ELECT	10uF	20%	16V
C621	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C622	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C623	1-124-257-00	ELECT	2.2uF	20%	50V
C624	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C625	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C630	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C631	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C632	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C701	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C702	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C703	1-163-169-00	CERAMIC CHIP	33PF	5%	50V
C706	1-128-057-11	ELECT	330uF	20%	6.3V
C708	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C709	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C710	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C713	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C714	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C715	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C801	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C802	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C804	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C805	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C806	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C807	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C808	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C809	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C812	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C813	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C817	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C818	1-162-294-31	CERAMIC	0.001uF	10%	50V
C819	1-162-294-31	CERAMIC	0.001uF	10%	50V
C820	1-162-294-31	CERAMIC	0.001uF	10%	50V
C902	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C907	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C908	1-124-465-00	ELECT	0.47uF	20%	50V
C910	1-110-654-11	DOUBLE LAYERS	0.047F		5.5V
C911	1-124-257-00	ELECT	2.2uF	20%	50V
C914	1-126-768-11	ELECT	2200uF	20%	16V
C916	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C919	1-126-160-11	ELECT	1uF	20%	50V
		< JACK >			
CNJ601	1-764-808-14	JACK (ANTENNA)			

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
CNP701	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P	
CNP801	1-764-422-11	PLUG, CONNECTOR 12P	
CNP901	1-774-701-11	PIN, CONNECTOR 16P	
		< DISCHARGE GAP >	
CP601	1-519-504-11	GAP, DISCHARGE	
		< DIODE >	
D401	8-719-109-71	DIODE RD3.9ES-B1	
D402	8-719-991-33	DIODE 1SS133T-77	
D507	8-719-109-89	DIODE RD5.6ESB2	
D601	8-719-986-73	DIODE RB441Q	
D602	8-719-986-73	DIODE RB441Q	
D603	8-719-109-85	DIODE RD5.1ES-B2	
D801	8-719-109-93	DIODE RD6.2ESB2	
D802	8-719-109-93	DIODE RD6.2ESB2	
D803	8-719-109-93	DIODE RD6.2ESB2	
D804	8-719-109-93	DIODE RD6.2ESB2	
D805	8-719-109-93	DIODE RD6.2ESB2	
D806	8-719-109-93	DIODE RD6.2ESB2	
D807	8-719-109-93	DIODE RD6.2ESB2	
D808	8-719-109-93	DIODE RD6.2ESB2	
D810	8-719-109-93	DIODE RD6.2ESB2	
D811	8-719-991-33	DIODE 1SS133T-77	
D901	8-719-929-15	DIODE HZS9.1NB2	
D902	8-719-929-15	DIODE MTZJ-T-77-9.1B	
D903	8-719-109-89	DIODE RD5.6ESB2	
D905	8-719-109-93	DIODE RD6.2ESB2	
D906	8-719-923-92	DIODE MTZJ-T-77-16B	
D907	8-719-049-38	DIODE 1N5404TU	
D908	8-719-200-82	DIODE 11ES2	
D909	8-719-109-97	DIODE RD6.8ES-B2	
		< FUSE >	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
		< IC >	
IC401	8-759-443-67	IC LC75373ED	
IC402	8-759-448-48	IC HA13157	
IC701	8-759-446-44	IC SM5852ES-E2	
IC702	8-759-364-34	IC SM5877AM	
IC801	8-759-467-78	IC uPD17705GC-517-3B9	
		< JACK >	
J801	1-764-270-21	JACK, STEREO MINIATURE (DIA.3.5)	(REMOTE IN)

Ref. No.	Part No.	Description	Remark
		< JUMPER RESISTOR >	
JR5	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR6	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR8	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR10	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR11	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR14	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR17	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR18	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR19	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR20	1-216-295-00	CONDUCTOR, CHIP (2012)	
		< COIL >	
L401	1-249-395-11	CARBON 15 5% 1/4W	
L703	1-410-513-11	INDUCTOR 22uH	
L801	1-410-513-11	INDUCTOR 22uH	
L805	1-410-328-31	INDUCTOR 10uH	
L901	1-411-823-21	COIL, CHOKE (TROIDAL)	
		< JACK >	
PJ401	1-764-697-11	JACK, PIN 4P (LINE OUT FRONT/REAR)	
		< TRANSISTOR >	
Q101	8-729-920-21	TRANSISTOR DTC314TKH04	
Q102	8-729-920-21	TRANSISTOR DTC314TKH04	
Q201	8-729-920-21	TRANSISTOR DTC314TKH04	
Q202	8-729-920-21	TRANSISTOR DTC314TKH04	
Q401	8-729-901-00	TRANSISTOR DTC124EK	
Q402	8-729-901-05	TRANSISTOR DTA124EK	
Q507	8-729-920-85	TRANSISTOR 2SD1664-QR	
Q601	8-729-111-52	TRANSISTOR 2SB984-K	
Q602	8-729-111-52	TRANSISTOR 2SB984-K	
Q603	8-729-900-53	TRANSISTOR DTC114EK	
Q604	8-729-900-53	TRANSISTOR DTC114EK	
Q605	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q606	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q901	8-729-019-00	TRANSISTOR 2SD2394-G	
Q902	8-729-901-05	TRANSISTOR DTA124EK	
Q903	8-729-900-53	TRANSISTOR DTC114EK	
Q904	8-729-015-11	TRANSISTOR 2SD1802FAST-TL	
Q905	8-729-900-53	TRANSISTOR DTC114EK	
Q906	8-729-209-15	TRANSISTOR 2SD2012	
Q907	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q908	8-729-920-74	TRANSISTOR 2SC2412K-QR	

MAIN

Ref. No.	Part No.	Description				Remark
Q909	8-729-900-53	TRANSISTOR	DTC114EK			
Q910	8-729-822-84	TRANSISTOR	2SB1202FAST			
Q911	8-729-900-53	TRANSISTOR	DTC114EK			
Q912	8-729-101-07	TRANSISTOR	2SB798-DL			
Q913	8-729-900-53	TRANSISTOR	DTC114EK			
Q914	8-729-901-05	TRANSISTOR	DTA124EK			
Q915	8-729-900-53	TRANSISTOR	DTC114EK			
Q919	8-729-900-53	TRANSISTOR	DTC114EK			
Q921	8-729-901-05	TRANSISTOR	DTA124EK			
		< RESISTOR >				
R101	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R102	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R103	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R104	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R105	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R106	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R107	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R108	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R109	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	
R110	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	
R111	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R112	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R118	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R201	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R202	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R203	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R204	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R205	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R206	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R207	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R208	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R209	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	
R210	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	
R211	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R212	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R218	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R401	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R402	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R517	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R601	1-216-073-00	METAL CHIP	10K	5%	1/10W	(US,Canadian)
R601	1-216-077-00	METAL CHIP	15K	5%	1/10W	(E)
R602	1-249-421-11	CARBON	2.2K	5%	1/4W	
R603	1-249-421-11	CARBON	2.2K	5%	1/4W	
R604	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	(US,Canadian)
R604	1-216-085-00	METAL CHIP	33K	5%	1/10W	(E)

Ref. No.	Part No.	Description				Remark
R605	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	(US,Canadian)
R605	1-216-085-00	METAL CHIP	33K	5%	1/10W	(E)
R607	1-247-807-00	CARBON	100	5%	1/4W	
R608	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R609	1-249-431-11	CARBON	15K	5%	1/4W	(E)
R610	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R611	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R612	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R613	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R614	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R615	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R616	1-249-417-11	CARBON	1K	5%	1/4W	
R617	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R618	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R622	1-216-246-00	METAL GLAZE	100K	5%	1/8W	
R624	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R701	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R702	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R703	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R704	1-216-033-00	METAL CHIP	220	5%	1/10W	
R707	1-216-001-00	METAL CHIP	10	5%	1/10W	
R708	1-249-411-11	CARBON	330	5%	1/4W	
R709	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R710	1-216-027-00	METAL CHIP	120	5%	1/10W	
R711	1-216-270-00	METAL CHIP	1M	5%	1/8W	
R712	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R801	1-249-419-11	CARBON	1.5K	5%	1/4W	
R802	1-216-105-00	METAL GLAZE	220K	5%	1/10W	(E)
R803	1-216-295-00	CONDUCTOR, CHIP			(2012)	(US,Canadian)
R804	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R805	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R806	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R807	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R808	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R809	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R810	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R811	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R812	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R813	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R815	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R816	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R817	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R818	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R819	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R820	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R821	1-249-417-11	CARBON	1K	5%	1/4W	
R822	1-249-417-11	CARBON	1K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R823	1-249-417-11	CARBON	1K	5%	1/4W	
R824	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R825	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R826	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R827	1-247-887-00	CARBON	220K	5%	1/4W	
R828	1-247-887-00	CARBON	220K	5%	1/4W	
R829	1-247-887-00	CARBON	220K	5%	1/4W	
R830	1-216-005-00	METAL CHIP	15	5%	1/10W	
R831	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R832	1-216-295-00	CONDUCTOR, CHIP		(2012)		
R901	1-216-182-00	METAL CHIP	220	5%	1/8W	
R903	1-249-413-11	CARBON	470	5%	1/4W	
R904	1-249-395-11	CARBON	15	5%	1/4W	
R906	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R907	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R908	1-216-064-00	METAL CHIP	4.3K	5%	1/10W	
R909	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R910	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R911	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R912	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R913	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R914	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R915	1-216-049-11	METAL GLAZE	1K	5%	1/10W	
R916	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R917	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R918	1-216-182-00	METAL CHIP	220	5%	1/8W	
		< SWITCH >				
S801	1-762-638-11	SWITCH, TACTILE (RESET)				
S802	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT) (E)				
		< TUNER >				
TU1	A-3282-029-A	TUNER UNIT (TUX-006/2 (E))				
		< THERMISTOR >				
TH901	1-809-148-11	THERMISTOR PTH8L07AR2R0M1B510				
		< VIBRATOR >				
X701	1-579-345-11	VIBRATOR, CERAMIC (16.934MHz)				
X801	1-760-223-11	VIBRATOR, CRYSTAL (4.5MHz)				

****

Ref. No.	Part No.	Description			Remark
*	A-3309-227-A	SERVO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C3	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C4	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C5	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C6	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C7	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C9	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C10	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C11	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C12	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C13	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C14	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C15	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C16	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C17	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C18	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C19	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C20	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C21	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C22	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C23	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C24	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C25	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C26	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C27	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C28	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C29	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C30	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C31	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C32	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C33	1-124-779-00	ELECT CHIP	10uF	20%	16V
C34	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C35	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C36	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C37	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C38	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C39	1-126-204-11	ELECT CHIP	47uF	20%	16V
C40	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
CN1	1-764-616-12	HOUSING, CONNECTOR (PC BOARD) 30P			
CN2	1-565-728-11	CONNECTOR, FPC 17P			
CN3	1-770-347-21	CONNECTOR, FPC 6P			

SERVO

Ref. No.	Part No.	Description	Remark
		< IC >	
IC1	8-752-372-94	IC CXD2507AQ	
IC2	8-752-069-56	IC CXA1782BQ	
IC3	8-759-354-16	IC BA6796FP-T1	
		< JUMPER RESISTOR >	
JR1	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR2	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR3	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR4	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR5	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR6	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR7	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR8	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR9	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR10	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR11	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR12	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR13	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR14	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR15	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR16	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR17	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR18	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR19	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR20	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR21	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR22	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR23	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR24	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR25	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR26	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR27	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR28	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR29	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR30	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR31	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR32	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR33	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR34	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR35	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR36	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR37	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR38	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR39	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR40	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR41	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR43	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR44	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR45	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR46	1-216-296-00	CONDUCTOR, CHIP (3216)	
		< COIL >	
L1	1-412-058-11	INDUCTOR CHIP 10uH	
L2	1-412-058-11	INDUCTOR CHIP 10uH	
L3	1-412-058-11	INDUCTOR CHIP 10uH	
		< TRANSISTOR >	
Q1	8-729-904-60	TRANSISTOR DTB113ZK	
Q2	8-729-904-86	TRANSISTOR 2SB1197K-Q	
		< RESISTOR >	
R1	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R2	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R3	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R4	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R5	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R6	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R7	1-216-009-00	METAL CHIP 22 5% 1/10W	
R8	1-216-119-00	METAL CHIP 820K 5% 1/10W	
R9	1-216-119-00	METAL CHIP 820K 5% 1/10W	
R10	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R11	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R14	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R15	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R16	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R17	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R19	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R20	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R21	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R22	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R23	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R24	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R27	1-216-295-00	CONDUCTOR, CHIP (2012)	
R28	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R29	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R30	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R31	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R32	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R33	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R34	1-216-009-00	METAL CHIP 22 5% 1/10W	
R35	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R36	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R37	1-216-117-00	METAL CHIP 680K 5% 1/10W	
R38	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R39	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R40	1-216-114-00	METAL GLAZE 510K 5% 1/10W	

Ref. No.	Part No.	Description				Remark
R41	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R42	1-216-107-00	METAL CHIP	270K	5%	1/10W	
R43	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R44	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R45	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R46	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R47	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R48	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R49	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R50	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R51	1-216-295-00	CONDUCTOR, CHIP	(2012)			
		< VARIABLE RESISTOR >				
RV1	1-238-091-11	RES, ADJ, CERMET 22K				
RV4	1-238-091-11	RES, ADJ, CERMET 22K				
**********						
*	1-659-834-11	SUB BOARD				
		**********				
		< CONNECTOR >				
CN1	1-770-347-21	CONNECTOR, FPC 6P				
**********						
		MISCELLANEOUS				
		**********				
11	1-769-786-71	CORD (WITH CONNECTOR) (POWER)				
⚠210	8-848-402-02	PICK-UP, OPTICAL KSS-520A/J2NP				
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A				
M901	X-3371-664-1	MOTOR ASSY (SPINDLE)				
M902	A-3291-674-A	MOTOR ASSY, SLED				
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING				
**********						
		ACCESSORIES & PACKING MATERIALS				
		**********				
	3-859-005-21	MANUAL, INSTRUCTION (ENGLISH,SPANISH, ARABIC,CHINESE) (E)				
	3-859-005-31	MANUAL, INSTRUCTION (ENGLISH) (US,Canadian)				
	3-859-005-41	MANUAL, INSTRUCTION (FRENCH) (Canadian)				
	3-859-006-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,ARABIC,CHINESE) (E)				
	3-859-006-31	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH) (US,Canadian)				
	X-3373-134-1	CASE ASSY				
**********						

Ref. No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-791-09	SCREW +PTT 2.6X5 (S)	
#2	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#3	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#4	7-627-850-28	SCREW, PRECISION +P 1.4X3	
#5	7-621-772-10	SCREW +B 2X4	
#6	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
#7	7-628-253-00	SCREW +PS 2X4	
#8	7-627-553-37	PRECISION SCREW +P 2X3 TYPE 3	
#9	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	
#10	7-627-000-00	SCREW, PRECISION +P 1.7X2.2 TYPE 3	
**********			
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
251	3-931-986-41	FRAME, FITTING	
252	X-3366-405-1	SCREW ASSY (EXP), FITTING (E)	
253	3-932-020-01	SCREW (+K 5X8 TP)	
254	3-388-078-01	KEY	
255	1-769-786-71	CORD (WITH CONNECTOR) (POWER)	
256	3-916-012-01	BRACKET (ND), FITTING ASSIST (US,Canadian)	
257	7-682-560-04	SCREW +P 4X6 (US,Canadian)	
258	X-3368-725-1	SCREW ASSY, FITTING (US,Canadian)	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurite. Ne les remplacer que par une pièce portant le numéro spécifié.

9-925-560-11

Sony Corporation
Personal & Mobile Communication Company

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